

Historic, Archive Document

Do not assume content reflects current scientific knowledge, policies, or practices.

Gleanings in Bee Culture

VOL. XXXVII

JULY 15, 1909

NO. 14



LAKE OF THE WOODS—NORTHERN MICHIGAN.



THE A. I. ROOT COMPANY, MEDINA, OHIO, U. S. A.

Practical **BEE-BOOKS** Popular

A complete treatise on the subject.

Fully illustrated.

The A B C of Bee Culture

A text-book for the beginner and advanced bee-keeper.

Cloth-bound, \$1.50 postpaid.
German edition, \$2.50 postpaid.

The Life of the Bee

Maeterlinck

A romantic story of the life inside the hive. A masterpiece of fine writing.

Price \$1.40 postpaid.

The Bee People

Margaret W. Morley

A bee-book especially for children. Illustrated.

Price \$1.50 postpaid.

The Lore of the Honey-bee

Tickner Edwards

A history of bees and their masters from the earliest times. One of the most fascinating books ever written on the subject.

Price \$2.00 postpaid.

Bee-keepers' 10c Library

Includes twenty-nine booklets neatly bound, each giving practical hints on some phase of bee-keeping. Of great value to beginners.

Price 10 cents each.

How to Keep Bees

Anna Botsford Comstock

A most entertaining and practical book for the beginner. Tells a beginner's experience in a way to help other beginners.

Price \$1.10 postpaid.

The Swarthmore Library

E. L. Pratt

A series of booklets on the scientific side of bee-keeping and queen-rearing. Full of valuable information.

Price 25 cents each.

Doolittle's Queen-rearing

G. M. Doolittle

The only comprehensive book on the subject now in print. Entertaining as well as practical.

Price 75 cents postpaid.

Wax Craft

T. W. Cowan

Beautifully printed and bound. Treats of the subject fully.

Price \$1.00 postpaid.

Cook's Manual of the Apiary

A. J. Cook

Covers practical management of the apiary, anatomy and physiology of the bee, and bee botany. Completely revised in 1902.

Price \$1.15 postpaid.

AMERIKANISCHE BIENENZUCHT

Hans Buschauer

A hand-book for German bee-keepers. Neatly bound and illustrated.

Price \$1.00 postpaid.

THE A. I. ROOT COMPANY, MEDINA, OHIO

Special Prices Root's Bee-supplies

WE ARE overstocked on some articles, and the rush of business being practically over with, we have decided to make special prices on the following list of goods, f. o. b. San Antonio. When ordering supers and hives you should order in lots of 5 and 10 or multiples thereof; sections, 500 or multiples; frames, 100 or multiples; shipping-cases, 50 or multiples. These are first-class goods made by The A. I. Root Co., but most of them have been in stock all the season and longer. We are giving designations just as given in Root's Catalog. If you have none write us for one, or write us for any other information.

Frames

9500 Shallow Frames, 4½-inch end-bars each	\$1.25 per 100
1900 Thick-top Staple-spaced Frames, P W, each	1.95 per 100
1500 Shallow All-wood Frs. for I super, ½-in. top-bars, PW,	1.25 per 100
2400 Shallow All-wood Frames for I super, ½-in. top-bars,	1.25 per 100

Hives, Covers, and Bottom-boards

Covers must be ordered in lots of 50 or multiples.

40 Danz. AE5-10 at 85c each.	300 8-10 at 38c each.
500 AE 5-10 PWKD at \$1.05 each.	300 A-10 at 18c each.
500 5-10 PWKD at 60c each	150 B-10 at 26c each.
250 G-10 at 26c each.	100 A-8 at 17c each.

100 B-8 at 25c each.

The above prices are good only until the above number of goods are sold, and only when this advertisement is mentioned. Remittance must accompany each order. Order quick before they are all gone.

Supers, Packed five in each package

330 2P-10 at 33c each.	175 2S-8 at 29c each.
305 4P-10 at 47c each.	55 4S-8 at 42c each.
135 2I-10 at 33c each.	200 2P-8 at 29c each.
115 2S-10 at 33c each.	80 J5-8 at —c each.

Sections---B grade, plain, packed 500 in a package

13,000 4x5x1¾ at \$2.85 per 1000	3500 at 3⅓x5x1½ at \$2.85 per 1000
We also wish to sell 4000 4x5x1¾ No. 1 plain sections at \$3.85.	

Shipping-cases for Comb Honey

500 12-inch, 4-row, 3 and 2 inch glass	at \$12.50 per 100
350 10-inch, 4-row, 2-inch glass	at 11.50 per 100
200 12-inch, 2-row, 2-inch glass	at 7.40 per 100
200 16-inch, 2-row, 2-inch glass	at 8.25 per 100
250 8-inch, 3-row, 2-inch glass	at 7.50 per 100
350 6¼-inch, 3-row, 2 and 3 inch glass	at 7.50 per 100
550 7½-inch, 4-row, 3-inch glass	at 7.50 per 100
250 7½-inch, 3-row, 3-inch glass	at 7.50 per 100
300 9¼-inch, 4-row, 3-inch glass	at 10.50 per 100
50 9¼-inch, 3-row, 3-inch glass	at 10.00 per 100

If you can use any of the cases in the foregoing, list with prices is good in lots of 50 or multiples thereof, as they are put in packages of 50.

Toepperwein & Mayfield
1322 South Flores St. San Antonio, Texas

Honey Markets

The prices listed below are intended to represent, as nearly as possible, the average market prices at which honey and beeswax are selling at the time of the report in the city mentioned. Unless otherwise stated, this is the price at which sales are being made by commission merchants or by producers direct to the retail merchant. When sales are made by commission merchants, the usual commission (from five to ten per cent), cartage, and freight will be deducted, and in addition there is often a charge for storage by the commission merchant. When sales are made by the producer direct to the retailer, commission and storage, and other charges, are eliminated. Sales made to wholesale houses are usually about ten per cent less than those to retail merchants.

CINCINNATI.—The market is bare of fancy white comb honey. We could make some good sales if we had shipments of fancy white goods at once. We have no extracted white-clover honey to offer. Amber in barrels is selling at 6 to 6½ according to quantity. We are paying 28 cts. cash and 30 in trade for beeswax delivered here.

July 9.

C. H. W. WEBER & CO.

INDIANAPOLIS.—No new honey has yet arrived on this market, and the market is bare of comb honey; but some extracted of last year remains unsold. A fancy article of new crop would undoubtedly find ready sale; but as yet there are no established prices. Producers of beeswax are receiving 29 to 31 cts. for it.

July 2.

WALTER S. PODUER.

ZANESVILLE.—The demand for honey is about normal. Stocks are practically exhausted. There are still a few arrivals of last season's crop—very little of this season's yield. No. 1 to fancy white-clover or raspberry comb brings on arrival 12 to 14, and wholesales in small lots at 16 to 17; best extracted in five-gallon cans sells at 9 to 9½. I offer for clean beeswax 29 cts. cash or 32 in exchange for supplies.

July 9.

EDMUND W. PEIRCE.

CHICAGO.—There is nothing specially interesting to state, different from what we said in our last report. The honey trade is practically at a standstill, and we do not look for any improvement until a month hence. We quote fancy white, 12 to 13; No. 1 white, 11 to 12; No. 2 white and light amber, 8 to 10, according to quality; white extracted, 60-lb. cans, 7 to 7½; light and medium amber, 6½ to 7. Beeswax, 28 to 30.

30.

July 9.

S. T. FISH & CO.

CINCINNATI.—There is very little demand for any kind of honey at this time of the year, excepting comb honey, for which we could find ready sale now. We would pay 14 cts. per lb. for the first 500 cases of fancy comb honey that would reach our store. There is but little call for extracted honey, and that little is being sold at regular prices from 8 to 10 cts. for the very best in 60-lb. cans, and 5½ to 7½ for amber in barrels, according to quality and quantity bought. We pay 28 cts. for choice bright yellow beeswax delivered here.

July 9.

THE F. W. MUTH CO.

KANSAS CITY.—The market here is about cleaned up on old comb honey. What new there has been on the market went at \$3.25 to \$3.50, only strictly fancy goods bringing the latter. The market is well supplied with old extracted, white selling at 6½ to 7; amber, 6 to 6½. Beeswax, 25 to 28.

July 9.

C. C. CLEMONS PRODUCE CO.

BUFFALO.—Nothing new to report in our market. No. 1 to fancy white comb honey pretty well cleaned up. The local trade here will not buy much more until the new comes in. No new in yet. No demand for lower grades. Some demand for extracted. Fancy white comb honey, 13 to 14; No. 1 to choice, 12 to 13; 2 comb, 8 to 10; dark comb, 9 to 10. Jelly-tumblers, 35 to 90 per dozen. Extracted, white, 7½ to 8; dark, 6 to 7. Beeswax, 28 to 32.

W. C. TOWNSEND.

July 10.

PHILADELPHIA.—There is some new honey arriving in this market, but so little call for it at this time that prices are not as yet established. Eastern Pennsylvania has had a normal crop; but other sections are reporting about three-fourths of the average crop. We are not looking for much change over last year's prices, although the indications are they will rule a little higher. Beeswax sells readily at 28.

July 8.

W. A. SELSER.

ST. LOUIS.—Since ours of June 22 our honey market has remained unchanged. The receipts of comb as well as of extracted honey have not increased. There is, however, no urgent demand for the same. We quote fancy white comb honey at 12 to 13; choice amber, 11 to 12; dark or granulated, nominal at 7 to 9; broken or leaking sells at less. Extracted honey is firm. Amber honey in five-gallon cans brings 6½; in barrels, 6 if choice. Inferior brings less. Beeswax brings 30 for choice pure. Inferior brings less.

July 10.

R. HARTMANN PRODUCE CO.

NEW YORK.—We are having a fair demand for fancy and No. 1 white honey, and are now beginning to receive the new crop from the South, which is selling at 13 to 14. Off grades are not much in demand, and will not bring over 10 to 12, according to quality. There is no demand for dark comb honey. There is only a fair demand for extracted. Large buyers are holding off, expecting to see lower prices ruling later on, especially on California. The new crop of Southern is arriving quite freely, and selling at from 60 to 75 cts. per gallon, according to quality. There is no new crop of California in the market as yet, and we do not expect to have any until next month. Beeswax is steady at 30 cents.

July 9.

HILDRETH & SEGELEN.

LIVERPOOL.—There has not been much honey shipping this last month. About 15 barrels, pile 1, Chilian, have been sold at \$7.00 up to \$8.00 for retail; 17 casks Dutch at \$5.80; 11 casks Haiti at \$5.00 to \$7.85 per 100 lbs. Nominal values for other kinds are: Chilian, \$7.00 to \$7.25 per 100 lbs.; Peruvian, \$3.85 to \$4.90 per 100 lbs.; California, \$9.12 to \$9.85; Jamaican, \$7.12 to \$7.92 per 100 lbs.; Haitien, \$7.12 to \$7.85 per 100 lbs. Beeswax is firm. Africain, \$32.40 to \$34.15, per 100 lbs.; American, \$33.60 to \$37.20 per 100 lbs.; West Indian, \$32.40 to \$36.00; Chilian, \$33.60 to \$40.80.

June 15.

TAYLOR & CO.

Now is the Time You Don't Want to be Stung

Bee-keepers tell us our Ideal Bee-veils are the best veils made. We mail one to you for 75c, postpaid.

THE FRED W. MUTH CO.

51 WALNUT STREET

The Busy Bee-men

CINCINNATI, OHIO

We buy fancy comb honey, and remit the day the shipment arrives.

Extracted Honey Wanted

We are always in the market.

If you have any to sell, mail small average sample to

**NATIONAL
BISCUIT COMPANY**
Purchasing Department.
Washington Blvd. & Morgan St.
CHICAGO, ILL.

WE WILL BUY AND SELL **HONEY**

of the different grades and kinds

If you have any to dispose of, or if you intend to buy, correspond with us.

We are always in the market for WAX at highest market prices.

HILDRETH & SEGELKEN

265-267 Greenwich St., 62-66 Murray St.
NEW YORK

HOW TO KEEP BEES

By ANNA BOTSFORD COMSTOCK

THIS is an excellent book for the beginner. Nothing better. We cordially recommend it to all who are learning bee-keeping by their own effort. Having commenced bee-keeping three times, the talented author is in a position to furnish the right kind of advice. You can not go wrong in ordering this book. It is charmingly written and easily understood. Price \$1.10 postpaid by

THE A. I. ROOT COMPANY, MEDINA, OHIO

→ Please ←
Rush My Order

WE CAN

As we have several carloads of Hives, Sections, Foundation, and all other bee-supplies GIVE US A TRIAL. Shipments are made the same day the order is received. . . . We can supp'y RED-CLOVER and GOLDEN - YELLOW QUEENS. . . .

C. H. W. WEBER & CO.

HEADQUARTERS FOR ROOT'S GOODS

Office and salesroom 2146-48 Central Av.

CINCINNATI, OHIO

GLEANINGS IN BEE CULTURE

E. R. ROOT
Editor

A. I. ROOT
Editor Home Department.

H. H. ROOT
Assistant Editor

J. T. CALVERT
Business Manager

Department Editors:—Dr. C. C. Miller, Prof. A. J. Cook, J. E. Crane, "Stenog," Louis H. Scholl, Wesley Foster, G. M. Doolittle, R. F. Holtermann, W. K. Morrison.

\$1.00 per year. When paid in advance: 2 years, \$1.50; 3 years, \$2.00; 5 years, \$3.00

POSTAGE IS PREPAID by the publishers for all subscriptions in the United States, Hawaiian Islands, Philippine Islands, Guam, Porto Rico, Tutuila, Samoa, Shanghai, Canal Zone, Cuba, and Mexico. Canadian postage is 30c per year. For all other countries in the Postal Union add 60 cents per year postage.

CHANGE OF ADDRESS. When a change of address is ordered, both the new and the old address must be given. The notice should be sent two weeks before the change is to take effect.

DISCONTINUANCES. We give notice just before expiration, and further notice if the first is not heeded, before discontinuing. Subscribers are urged to renew promptly in order to avoid interruption in receipt of *GLEANINGS*; or, if unable to make payment at once, to advise us when they can do so, which will be considered as an order to continue. Any one wishing his subscription discontinued should so advise us upon receipt of expiration notice and he will not be annoyed by further notices.

HOW TO REMIT. Remittances should be sent by Draft on New York, Express-order or Money-order, payable to order of The A. I. Root Company, Medina, Ohio. Currency should be sent by registered letter.

AGENTS. Representatives are wanted in every city and town in the country. A liberal commission will be paid to such as engage with us. References required.

FOREIGN SUBSCRIPTION AGENTS

Foreign subscribers can save time and annoyance by placing their orders for *GLEANINGS* with any of the following authorized agents, at the prices shown:

PARIS, FRANCE. E. Bondonneau, 56 & 58 Ave. Felix Faure, Paris 15. *Per year, postpaid, 7½ fr.*

GOODNA, QUEENSLAND. H. L. Jones. Any Australian subscriber can order of Mr. Jones. *Per year, postpaid, 6/-.*

DUNEDIN, NEW ZEALAND. Alliance Box Co., 24 Castle St. *Per year, postpaid, 6/-.*

CONTENTS FOR JULY 15, 1909

EDITORIALS	419	Alsike, Veterinary's Opinion on	430
Crop Prospects.....	419	Alsike for Sheep	430
Shipping-case, Corrugated	419	Hutchinson on Selling Honey	431
Brood, Dead or Pickled	420	Apiary in Northern Michigan	432
Bees Sting More at one Time than Another	420	Honey, Advertising	435
Cross Bees at Vernon Burt's	421	Florida, Views in	437
Sting, Severe	421	Fish, Florida Catch	438
Gloves for Cross Bees	421	Carpentry for Bee-keepers	439
Gloves Rendered Sting-proof	421	Comb Honey versus Extracted	440
STRAY STRAWS	422	Production of Extracted Honey	441
BEE-KEEPING IN THE SOUTHWEST	423	Basswoods of Europe and America	442
Butcher-knife to Uncap	423	Shaking Bees not Natural	442
Texas Convention	423	HEADS OF GRAIN	443
SIFTINGS	424	No Brood Before Pollen was Supplied	443
Queens Dying in Cells	424	Swarms, Uniting Two	443
Queens Injured by Shaking	424	Foundation, To Fasten in Brood Frames	443
CONVERSATIONS WITH DOOLITTLE	425	Bee-keeping in Maine	443
Bees Visiting Various Flowers	425	Shook Swarming	444
GENERAL CORRESPONDENCE	426	Feeding, Time for	444
Uncapping-knives Discussed	426	Honey from Foul-broody Hives	444
Extractors Driven by Power	426	Canard about Honey	444
Second-hand Cans	426	Swarm-catcher, New	445
Splints for Extracting-combs	426	Car for Moving Bees	445
Honey Versus Cane Sugar	427	Sweet Clover Sown in Corn	445
Honey Recipes	427	Black Queens, to Find	445
Bee-keeping for Women	428	Bees in Grain-cars	445
Travel-stain	428	Wire-cloth Separators Not a Success	445
Alsike Clover, Effect on Horses	429	Splints in Upper Stories	445
Alsike Displaces Red Clover	429	OUR HOMES	448
Alsike, Effect on White-nosed Colts	429	POULTRY DEPARTMENT	448

RASPBERRY HONEY

There are some raspberries left near some of our apiaries in Northern Michigan, and we are scattering our bees out where there are patches of berries left unburned, and the prospects are that we shall get some raspberry honey the coming season, but probably not so large a crop as usual.

Any one wishing to be sure of securing some of this honey would do well to send in his order in advance,

as the honey will quite likely be snapped up in a hurry. If any one cares to send us advance orders, such orders will be greatly appreciated, and the honey will be shipped just as soon as harvested.

The honey will be stored in bright, new, round jacketed tin cans, with flat cover and wire bail. Price ten cents a pound—\$6.00 for a can.

W. Z. HUTCHINSON, Flint, Mich.



FOR QUICK DELIVERY

and LOW FREIGHT send your
orders for BEE-SUPPLIES to . .

THE A. I. ROOT CO., 221-229 Institute Place
CHICAGO, ILLINOIS

We are now fully moved, located, and well stocked with a FULL LINE of supplies. We have the best shipping facilities, and with plenty of help we promise to get goods to you promptly. There are only two reasons why we might fail, viz., the neglect of some transportation company to give its usual good service, and our inability to turn out stock fast enough to care for your orders. We are promised a large carload from our factory every TEN days, so you see we expect to take good care of your orders. If you haven't our new catalog let us send you one.

Remember our new location, four blocks north of our former place.

The A. I. Root Co.,

221-229 Institute Place

R. W. Boyden, Resident Manager.

Chicago, Illinois

Jeffrey Building

Take Elevator to Sixth Floor.

Telephone 1484 North.

DAT POINTS ON POULTRY RAISING

Just what you're asking for. Pithy articles by long experienced poultry raisers. Answers to your questions. Complete show reports. A Department for every need. Four complete poultry books during coming year—all in that wide-awake, hustling "Poultry Gazette," 40 to 80 pages

monthly, overflowing with the very facts you need to pull more money out of your poultry. Send 25 cents for a year's trial subscription. You'll be pleased.

The Poultry Gazette
Box 5, Fremont, Nebr.

Not Cheap Queens, but Queens Cheap

DON'T BUY QUEENS UNTIL YOU SEE MY

FREE OFFER

Red-clover three-band queens as follows: Untested, 1, \$1.50; 6, \$5.70; select breeder, \$5.00.

Nuclei with histered queen, one frame, \$1.75; two-frame, \$2.25; with tested queen, one frame, \$2.00; two-frame, \$2.50.

Five-band or golden queens as follows: Untested, 1, \$1.00; 6, \$5.70; tested, 1, \$1.50; 6, \$8.70. Breeders 1, \$1.00.

If queens are wanted in large quantity, write for prices.

Directions for building up weak colonies, 10 cts.

W. J. LITTLEFIELD, LITTLE ROCK, ARK., RT. 3.

Advanced Bee Culture

HUTCHINSON

A book for the bread-and-butter bee-keeper. Mr. Hutchinson is a large producer of honey, and treats of the subject in a clear and attractive style.

Price \$1.20, postpaid.

The A. I. Root Company, Medina, Ohio

GLEANINGS IN BEE CULTURE

Devoted to Bees, Honey, and Home Interests

Established 1873

Circulation 35,000

72 pages Semi-monthly

A. L. BOYDEN, Advertising Manager

ADVERTISING RATES

Twenty-five cents per agate line, flat. Fourteen lines to inch.

SPACE RATES. To be used in one issue. One-fourth page, \$12.50; one-half page, \$25.00; one page, \$50.00.

Preferred position, inside pages, 30 per cent additional.

Preferred position, inside cover, 50 per cent additional.

Outside cover page, double price.

Reading notices, 50 per cent additional.

Cash-in-advance discount, 5 per cent.

Cash discount if paid in 10 days, 2 per cent.

Bills payable monthly.

No medical or objectionable advertising accepted.

Column width, 2½ inches.

Column length, 8 inches.

Columns to page, 2. (Regular magazine page.)

Forms close 10th and 25th.

Address Advertising Department, Gleanings in Bee Culture, Medina, Ohio.

INDEX TO ADVERTISEMENTS

Banking by Mail.

Savings Deposit Bank... 18

Bee-supplies.

	Bees and Queens.	Classified Ad's.	Household Special's.
Savings Deposit Bank...	Case, J. B..... 16	Bees and Queens..... 18	Gaylor Aut. Stropper Co. 14
Arnd Honey Co..... 9	Doolittle & Clark..... 15	Beekeepers' Directory..... 18	Lamps.
Blank & Hauck..... 11	Fajen, C. J..... 14, 15	For Sale..... 17	Best Light Co..... 13
Cary, W. W., & Son..... 9	Hand, J. F..... 15	Honey and Wax Wanted..... 17	Miscellaneous.
Cull & Williams Co..... 12	Hutchinson, W. Z..... 5	Honey and Wax for Sale..... 17	Wilke, G. P..... 14
Falconer cover.	Haws, W. H..... 16	Planos..... 17	Mushrooms.
Hilton, Geo. E..... 8	Leibling, F. A..... 15	Poultry..... 17	Jackson Mushroom Farm. 14
Hunt & Son, M. H..... 8	Malan Brothers..... 15	Real Estate..... 17	Patents.
Jenkins, J. M..... 17	McCorkle, J. A..... 14, 16	Situations Wanted..... 17	Williamson, C. J..... 9
Jepson, H. H..... 7	Mercer & Wirth..... 15	Wants and Exchanges..... 17	Publications.
Koeppen, Chas..... 16	Miller, I. F..... 16	Apicultural Mfg. Co..... 11	American Bee Journal... 9
Minnesota Bee Sup'y Co. 12	Mondeng, C..... 16	Decappers.	Poultry Gazette..... 5
Muth Co., F. W..... 2	Moore, J. P..... 16	Comb Foundation.	Southern Ad. Journl.... 14
Nebel, J. & Son..... 7	Mott, E. E..... 16	Dadant & Sons..... 24	Typewriters.
Nysewander, Joseph..... 8	Pharr, J. W..... 15	Apicultural Mfg. Co..... 11	Oliver Typewriter Co.... 13
Peirce, E. W..... 8	Quirin..... 16	Fencing.	Wagons.
Poulder, Walter S..... 12	Robey, L. H..... 16	Kitselman Brothers..... 13	Hildreth & Segelken.... 3
Root Co., Chicago..... 5	Shaff, H..... 15	Gas-engines.	National Biscuit Co.... 3
Root Co., Syracuse..... 5	Shaff, W..... 15	Galloway Co., Wm..... 13	Electric Wheel Co.... 14
Stringham, L. J..... 9	Simoni, L..... 15	Honey-dealers.	
Toepperwein & Mayfield. 1	Taylor & Son..... 15	Hildreth & Segelken.... 3	
Weber, C. H. W..... 3	Wardell, F. J..... 17	National Biscuit Co.... 3	
Woodman, A. G..... 9	Wurth, D..... 16		

Bee-smokers.

Danzenbaker, F..... 9 American Can Co..... 24



WITH A FULL LINE OF

Bee-keepers' Supplies

We can please you with quick shipments and satisfactory prices and service. Our goods are the ROOT CO.'S make, hence there is nothing to fear as to quality. A card will bring you our 50-page catalog by return mail. Send us your inquiries. We are able to supply you on short notice Italian bees, queens, and one, two, and three frame nuclei.

**John Nebel & Son
Supply Co.** High Hill, Montg. Co., Mo.

The Best Comb-honey Combination

I have 112 colonies all in Danz. hives with the exception of ten, which are in Danz. divisible hives, and these will go into the regular Danz. body in the spring. The reg'lar Danz. body, with the right management, is the best combination in the world for comb honey. I let the big-hive men laugh, but when we go to market, their product is no competitor to mine. The dealers say to them, "If yours is as good as Hall's bring it in and we will take it." And it is all in the form and management of the HIVE.

St. Joseph, Mich., Sept. 26, 1908. C. L. HALL.

You can get the same results by using the Danzenbaker hive. Nothing to equal it for the production of comb honey. The booklet "Facts about Bees" tells all about this hive. Sent to any address on receipt of ten cents.

Write for quotations on the
Danz. hives for your apiary.

The A. I. Root Company, Medina, Ohio, U. S. A.

Mr. Bee-Man:

You can save time, worry, and money by ordering your supplies for next season now.

I have a full line of Hives, Supers, Sections, Foundation—in fact, every thing you need in the apiary. If you do not have a catalog, send for one to-day.

H. H. JEPSON
182 Friend St. Boston,
Phone Haymarket 1489-1 Mass.

PUBLICATIONS ON BEE CULTURE

Please use this order form by checking in the margin the items wanted

The pamphlets and booklets listed below are of more than ordinary interest:

- My First Season's Experience with the Honey-bee.** By the "Spectator," of the Outlook, of New York. A ten-page leaflet detailing the experiences of this well-known writer. You will read the leaflet through before you lay it down. Free.
- The Bee-keeper and Fruit-grower.** A 15-page booklet giving actual facts regarding the value of bees to fruit, and showing how bee-keeping may be doubly profitable to the fruit-grower. Fruit-growers are realizing as never before the necessity of having honey-bees in close proximity to their blossoming fruit. Free.
- Bee-keeping for Sedentary Folk.** A 24-page leaflet reciting the actual experiences of an amateur bee-keeper, showing what equipment is best, points derived, etc. Free.
- Catalog of Bee-keepers' Supplies.** Our complete catalog will be mailed free to any address on request.
- Transferring Bees.** A 14-page booklet giving instructions and illustrating appliances. No need to keep your bees in old out-of-date hives when they can easily be transferred into new hives and earn profits for you. Price 10 cts.
- Bee-hunting.** Gives information necessary to enable one who is active and intelligent to engage in bee-hunting with success. It is well gotten up and worth the price, which is 25 cents.
- Spring Management of Bees.** A 14-page booklet detailing the experiences of some successful bee-keepers, and giving instructions on this oftentimes perplexing matter. Price 10 cts.
- Habits of the Honey-bee.** By Dr. E. F. Phillips. A somewhat scientific handling of the habits and anatomy of the bee. Price 10 cents.
- How to Keep Bees.** A book of 228 pages, detailing in a most interesting manner the experiences of a beginner in such a way as to help other beginners. Price \$1.10 postpaid.
- The A B C of Bee Culture.** A complete encyclopedia on bees, of nearly 540 pages, fully illustrated. \$1.50 postpaid; half leather, \$2.00.
- Gleanings in Bee Culture.** A 64-page illustrated semi-monthly magazine, the leading exponent of bee culture in this country. Ten cents per issue, but to new subscribers we will furnish it six months for 25 cents.

This sheet may be used as an order sheet by properly checking on the margin your signature, and remittance, if required.

*The A. I. Root Co., Medina, O.:
Please send me the items checked above;
I inclose \$..... to cover the cost.*

Name.....

Street Address or R. F. D.....

Town.....

G.B.C. 7-15 State.....

A STRENUOUS TIME

For the last three months we have been so busy that we were obliged to work up to 10 p. m. and sometimes till midnight, in order to get goods off. We are now caught up with orders, and shall be able to get goods off more promptly. MY! BUT DID NOT THE BEE-KEEPERS OF THIS STATE GIVE US A RUSHING BUSINESS?

THE A. I. ROOT CO.
SYRACUSE, :: NEW YORK

THEY ARE HERE.

**The Best and Largest Stock of Root's Goods
Ever in Western Michigan.**

As I was able to clear up my stock closely last season, every thing is new. Danz, and all Dovetailed hives with the $\frac{1}{8}$ bottom-boards. Shipping-cases with the corrugated paper. The newest design of extractors. In fact, every thing fresh from the factory, and of latest design.

**SEND ME A LIST OF YOUR WANTS
AND LET ME MAKE YOU FIGURES**

The goods are here, my time yours,
and I want to serve yo'.

I can still take a few more orders for my strain of bees and nuclei. See ad. in back numbers. And I want beeswax, for which I will pay cash or 3c above cash prices in exchange for goods. Send for my 1909 catalog (48 pages), free.

**GEORGE E. HILTON
FREMONT, MICH.**

RUSH ORDERS

We have a large stock to draw from to handle your rush orders for hives, sections, etc.—and they are all Root Quality.

We have the best shipping-point in Michigan to get the goods to you quick. Our catalog for the asking. Beeswax wanted.

M. H. Hunt & Son

Lansing, Mich.

Opposite Lake Shore Depot.



Western Headquarters

**... for ..
ROOT'S GOODS**

My stock of goods is the largest and most complete carried in the West, and with car-loads being continually added I am in position to meet every want of the bee-keeper with promptness and satisfaction.

We sell ROOT'S GOODS here at Des Moines, Iowa, AT ROOT'S FACTORY PRICES, wholesale and retail.

Send for catalog to-day, or send us a list of the goods you need and we will name you prices, according to quantity, by letter.

**Address JOSEPH NYSEWANDER
565 and 567 W. 7th St. DES MOINES, IOWA**

New England Bee-keepers

We are headquarters for
BEE-SUPPLIES

We have a large stock of

SECTIONS AND FOUNDATION

of all grades in stock, and can make prompt shipments of all orders for regular goods. Send for price list. See our queen ad. in this issue.

W. W. CARY & SON
Lyonsville, - - - Massachusetts

I. J. STRINGHAM
105 PARK PL.

New York City

furnishes bees, and every kind of material bee-keepers use. Tested Italian queens, \$1.25. Catalog free.

Apiaries: Glen Cove, L. I.

PATENTS 25 YEARS' PRACTICE.

CHARLES J. WILLIAMSON,
Second Nat'l Bank Bldg., WASHINGTON, D. C.

Patent Practice in Patent Office and Courts.

Patent Counsel of The A. I. Root Co.



Dovetail hives, sections, foundation, and all supplies on hand in large quantities ready for immediate shipment day order is received. We can ship at once. No delays.

A. G. Woodman Co., Grand Rapids, Mich.

LEWIS BEE-WARE SHIPPED PROMPTLY

ARND HONEY & BEE-SUPPLY COMPANY (Not Inc.)
SUCCESSORS TO YORK HONEY & BEE-SUPPLY COMPANY

SEND FOR CATALOG.

191 E. Superior St., Chicago, Ill.

This Coupon Good for 35c

(New Subscribers Only)

Name

Post-office.....

State.....

on any ONE of these special offers:

American Bee Journal one year with—

Doolittle's book, "Scientific Queen-Rearing" (leatherette),	\$1.40
Untested Italian Queen,	1.55
Dr. Miller's "Forty Years Among the Bees,"	1.75
Fountain Pen,	1.75
Novelty Pocket Knife (with your name and address on one side—Queen, Drone and Worker bee on the other side)	2.00

The American Bee Journal is a 32-page illustrated 75-cent monthly. It tells all about the best way to manage market quotations, etc. A dozen different departments—one for women bee-keepers. Best writers. If you will send us your name and address with 40 cents (stamps or coin) together with this coupon, we will send you a trial trip of Bee Journal for 12 months. Order now and let us begin with this month's fine number. Sample copy free. Address,

American Bee Journal, 118 West Jackson Boulevard, Chicago, Illinois.

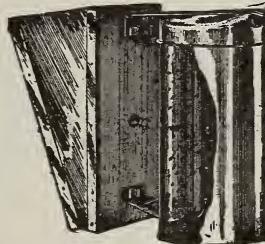
IMPROVED DAN-ZE GUARANTEED 'ALL RIGHT'

COLD MEDALS

St. Louis - 1904

Jamestown - 1907

100th CENTURY



IS THE BEST,
STRONGEST,
COOLEST,
CLEANEST,
CHEAPEST,
and LARGEST
SMOKER SOLD
FOR A DOLLAR.

With the side grate combines hot and cold blast deflecting part of the air back and over the fuel; COOLS as it expels the smoke, while part fans the side and bottom till all consumed. The Double-walled case, 3½ inches in diameter, has asbestos-lined sides and bottom, keeping all cool.

The projecting hinge-strap protects the smoke exit, and renders easy opening the one-piece cap.

THE VALVELESS metal-bound bellows combines simplicity, utility, and durability.

Five years increasing sales justify us in extending our GUARANTEE of PERSONAL RESPONSIBILITY for full satisfaction or REFUND of price on all our smokers sold by US OR OTHERS.

Price \$1.00; two, \$1.60; mail, 25c each extra.

DAN-ZE HIVES with metal Propolis-proof Guards.

ROOT'S Goods at Root's prices, early-order discounts.

Write us for any thing you need. Free circular for yourself and your friends.

If you want a home in this genial Sunny South Land, we will help you find it.

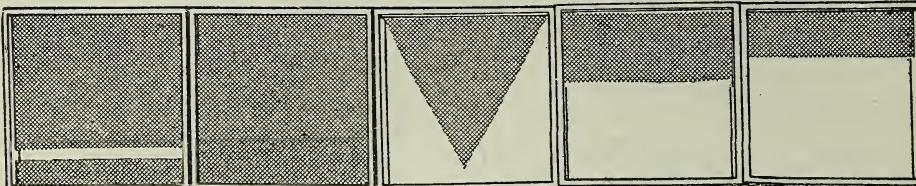
F. Danzenbaker, Norfolk, Va., or Medina, Ohio

bees to produce the most honey; with market quotations, etc. Best writers. If you will send us your name and address with 40 cents (stamps or coin) together with this coupon, we will send you a trial trip of Bee Journal for 12 months. Order now and let us begin with this month's fine number. Sample copy free. Address,

American Bee Journal, 118 West Jackson Boulevard, Chicago, Illinois.

Comb Foundation

"Weed" Process



A Few Suggestions for Putting Foundation into Sections

There are many bee-keepers who are not getting the results they ought to, simply because they fail to use foundation liberally. Economy is a good thing—it is a virtue, but if one is *too* economical it is just as bad as being prodigal. There is no longer any reason why any one should have large patches of drone-cells in the brood-combs. Use foundation and save the bees from the labor of rearing thousands of useless but voracious drones. Rearing drones is a losing game for any honey-producer. You may trap them, but it is much more satisfactory to prevent their existence, and they eat a lot before they grow to maturity, wasting space, time, and food. Prevention is best.

Fine board like combs are essential in an apiary where the highest results possible are sought. Such combs are perfectly interchangeable, and enable the owner to follow the most up-to-date and scientific plans in aparian management.

crooked combs are an affliction in a well-regulated apiary, and the only satisfactory way to avoid the same is to use "Weed" Foundation in all brood-frames—full sheets every time. This is the *cheapest* way, and by long odds the most satisfactory. If you are a comb-honey producer you certainly ought to use full sheets in sections, and in addition a *bottom* starter. You will certainly have fewer "culls" and more "No. 1" and "Fancy" sections. Our ablest and most successful comb-honey specialists do this, and find it "pays." It pays in more than one sense of the word. In any case it will hardly pay to run counter to the most successful comb-honey producer.

The question with many bee-men is, "Can I afford to do without foundation?" and that means "Weed" foundation. You can not afford to experiment with other kinds.

Our "Weed" foundation has been tested and tried in the crucible of experience by the most eminent bee-keepers everywhere, and by universal consent it holds the first place, not in America alone, but in Europe and elsewhere.

You may judge somewhat of the popularity of this foundation when we tell you that about 70,000 pounds was sold during the month of April, 1909.

Make sure you have enough foundation to last through a big harvest. To delay ordering until the last minute often means the loss of a large honey crop, and will turn a very profitable season into a poor one.

This foundation is sold by all leading dealers in bee-keepers' supplies. Be sure to specify "Weed" Process when sending in your order, and accept no other.



Better Supplies More Profits

You know to how large an extent the profits of bee culture depend upon the right kind of supplies, and you know, too, that just as important as the right supplies is to get them when you want them, at the right price.

In every way—location, stock, and low prices—we are fitted to serve you to your profit.

We Ship on Time

and you get the goods when you want them. We are centrally located, and can ship direct by boat and over thirty different railroads. Our stock is the best, and we sell the best goods at the lowest prices. What more can you want? Write today for our big book and special prices for this month.

Blanke & Hauk Supply Co.
1009-13 Lucas Ave. St. Louis, Mo.

MILLER AUTOMATIC DECAPPERS

For all Frames and Sections.
\$5 to \$35.
Send for descriptive catalog.

Apicultural Manufacturing Co.
Providence, R. I.

New England Bee-keepers!

WE WANT YOUR ORDERS

Supplies - Bees - Queens

Cull & Williams Company, Providence, R. I.

SUPPLIES . . . and QUEENS

Every thing needed by the bee-keeper, and purest strain of Italian queens and bees. Tested queens, \$1.50; untested, 75c.

J. M. JENKINS
WETUMPKA . . . ALABAMA

500,000 Sections ^{A T} \$1.50 per Crate

Manufacturer's stock just purchased by us must be moved at once in order to make room for another tenant. We offer for sale this job lot of one-piece sections at this bargain price so as to avoid the expense of carting and storing these goods in our warehouse.

Packed Ready for Immediate Shipment

These sections are packed 500 to the crate, and are ready for immediate shipment. The lot consists of a mixed assortment in the following sizes of **OFF-CRAGE SECTIONS**—some a little off color and some not quite smooth enough to qualify for No. 1 and No. 2 grades, but good enough for ordinary use.

$4\frac{1}{4} \times 4\frac{1}{4} \times 1\frac{1}{8}$ inches....Beeway.
 $4 \times 5 \times 1\frac{1}{8}$ inches.....Plain.

$4\frac{1}{4} \times 4\frac{1}{4} \times 1\frac{1}{2}$ inches....Plain.
 $3\frac{3}{8} \times 5 \times 1\frac{1}{2}$ inches.....Plain.

Bee-keepers should take advantage of this exceptional opportunity to secure these sections at this bargain price before the supply is exhausted. Manufacturers (with but few exceptions) are away behind on orders. A supply of these sections on hand will be worth many times their cost in case of emergencies when you are in need of sections and can not get them, as they come handy to fill in with.

REMEMBER---500 Sections for \$1.50 per Crate

Orders will be filled for any quantity desired in the same order as received until the lot is disposed of. All goods shipped subject to approval, as we guarantee satisfaction to our clients at all times in every business transaction.

DON'T DELAY IT. MAIL THAT ORDER TO-DAY. DON'T DELAY IT.

Minnesota Bee-Supply Co., Minneapolis, Minn.
223 Nicollet Island

"If Goods are wanted Quick, Send to Pouder."

Established 1889

From Good Old Kentucky

By the Bee Crank

A short time ago I published a few verses written by one of the many admirers of "Pouder Service." I have thus far failed to learn his identity, but have evidently stirred up another enthusiast who is just as modest. This time the letter is postmarked "Kentucky"—good old Kentucky—where there are so many pretty girls. While I have no means of knowing whether or not these verses were written by one of these Kentucky belles, I do know that I have a goodly number of satisfied patrons among the fair sex of that, as well as other States; for the ladies, as a rule, insist on having their orders executed accurately and promptly. Whoever you are, madam, mister, or miss, you need not hesitate to acknowledge these verses:

A man named Pouder keeps a store—
In Indianapolis town;
If you've bought goods of him before,
You've surely marked it down.
If they're wanted quick, he hits the lick
That sends them down the line;
I've bought before; when I want more,
It's "Pouder Service" for mine.

He keeps his store so full of wares he can hardly circulate;
But he can ship 'em on the cars so they won't reach you late;
He handles all of Root's best stuff, a full and complete line;
I tell you, friends, this is no bluff—it's "Pouder Service" for mine.
I'VE HAD EXPERIENCE.

It is seldom that my patrons write to me in poetry; but they do often write about this same experience. Twenty years' study of the bee-man's needs has enabled me to assemble a stock of standard goods from which any thing you want in a hurry can be shipped at a moment's notice. This is one of the reasons why "Pouder Service" is popular. Another is the fact that from Indianapolis, the greatest inland railroad center in the world, I can ship goods in almost a straight line to any point in the country, saving time and expense. Still a third is found in the fact that Root's line of standard goods is furnished you at the factory schedule of prices. You can order from Root's catalog if you desire, or I will send mine free on request, which would probably remind you of something that you should have.

For beeswax I am now paying 29 cts. cash or 31 cts. in trade.

I am in the market to purchase high-grade honey on cash-bargain basis.

**Root's
Goods
at
Root's
Prices
with
Pouder
Service**

Walter S. Pouder, Indianapolis, Indiana

859 Massachusetts Avenue

GLEANINGS IN BEE CULTURE

Published by The A. I. Root Co., Medina, Ohio

H. H. ROOT, Assistant Editor
A. I. ROOT, Editor Home Department

E. R. ROOT, Editor

A. L. BOYDEN, Advertising Manager
J. T. CALVERT, Business Manager

Entered at the Postoffice, Medina, Ohio, as Second-class Matter.

VOL. XXXVII

JULY 15, 1909

NO. 14

EDITORIAL

By E. R. Root.

TAKE NOTICE—HONEY-DEW HONEY CAN NOT BE SOLD AS HONEY.

ANY comb or extracted honey that has any considerable quantity of honey-dew in it, or enough to give it a flavor of honey-dew, should be sold as "honey-dew honey" and not honey, otherwise the vender will be liable to prosecution for violation of the pure-food law. Honey-dew, even though the bees gathered it and the bee-keeper took it out of the hive, can not pass for "honey," and must not be sold except as "honey-dew honey."

HONEY-CROP PROSPECTS FOR 1909.

IT is a little early yet to give any accurate predictions. The reports from over the country indicate that the crop will be very much lighter than that of last year; but it should be remembered that 1908 was a "bumper season." Reports already in show that the flow around Ohio is poorer than in points more distant. In the East the crop is variously reported poor, fair, and good, with a little honey-dew. In Ohio and Indiana there has been a large amount of this black stuff from hickory and oaks, and a lighter flow from clover. The basswoods are showing up well. In Illinois and Michigan the season is reported poor, fair, and good. It is still a little early to get any thing definite from the northwestern States like Wisconsin and Minnesota. In Missouri the season is reported from good to very good. Colorado, apparently, will have a good crop; Arizona half a crop. California will fall far below earlier expectations. It has been estimated that there will be anywhere from one-fourth to one-third of a crop in that State.

The fact that so much honey-dew has been gathered in the central States, and much of it mixed with first-quality table honey, will have a very strong tendency to boost prices on a strictly pure clover and basswood. By the way, basswoods from all sections are reported very promising.

The apple crop is reported light. The other day, in the Cleveland markets red raspberries were retailing at 28 cts. Other fruit seems to be somewhat scarce. Taking every thing into consideration there is every indication to show that prices on a strictly fine article of white table honey, clover and basswood, or clover and basswood mixed, should be well up. The mixtures of clover and

honey-dew should be sold, as far as possible, around home where the producer is known. It would be a great mistake to ship much of it to the distant markets, because it can have only one effect—to depress prices. Because of this dark stuff in much of the Eastern honey, good prices should be secured on Western alfalfa, particularly Colorado honey.

The reports are only partially in; but we request our subscribers from every section of the United States to write and let us know what the season is or has been. Give as accurate information as you can get.

SEND YOUR FOUL-BROOD SPECIMENS TO WASHINGTON.

IN view of the fact that the United States government, through the Bureau of Entomology, is willing to examine all specimens of diseased brood, and render a report free of charge, we would respectfully suggest that all suspicious samples be hereafter sent to Washington, to Dr. E. F. Phillips, of the Bureau of Entomology, instead of to Medina. We are very willing to diagnose and report on any samples sent us; but the government officials are very much better equipped for giving an accurate determination, and, what is more, they are willing to send out a special box with a frank for the return of the specimen to be examined.

The action of the Bureau of Entomolgy in fighting diseases among bees is highly commendable; and it should have the thanks of all the bee-keepers of this country. The situation was getting where nothing but national aid would be effective; and the time will doubtless soon come when the government will have to go further and require inspection of all yards from which nuclei or colonies are sent from one state to another.

THE NEW CORRUGATED SHIPPING-CASE; THE EXPERIMENT OF SENDING HONEY CASED IN ONE OF THEM BY EXPRESS, AS MENTIONED ON PAGE 356, JUNE 15, NOT A FAIR TEST.

J. E. CRANE was somewhat surprised to think that we should think of sending a case of honey put up in one of these new corrugated-paper carriers by express to New York. He was very sure it could only result in failure, and, as it turned out, the test was misleading and unfair.

We well knew it would be a severe one, but thought it might stand it, and, if so, it would go a long way to prove its merits. The fact of the matter is, there is no real need of sending honey by express, because the charges would more than eat up the profits of honey transported on that plan.

Mr. Crane also takes occasion to criticise our statement where we advise the use of carriers for these new paper cases, even when sent by freight. While he admits that it may be wise for some people to use them, yet he has sent large shipments of honey in them repeatedly by freight, without carriers, the honey going through in first-class condition.

As to whether carrier should be used or not, we think it will depend largely upon the railroads over which the honey is to be shipped, the distance, and how well the honey is fastened in the sections. Perhaps it would be wise not to try too large a shipment by freight at the start without carriers.

Mr. Crane also draws attention to the fact that our shipment of single-crate case of comb honey in the new paper carrier had no label or any thing to indicate the fragile character of the contents. That being the case, he doesn't see how it would be possible for any goods like honey to go through without being utterly smashed to pieces. He also inquires whether the case that was used to transport this honey was like the sample we sent him in which the cross-partitions were of the same height as the sections; that the cases he was making and supplying had cross-partitions that were higher than the depth of the sections. These cross-partitions he further explained would then support the weight of any other cases or boxes that might be placed upon the package, thus taking the strain entirely off from the sections. We replied by saying that the case we shipped the honey in to New York had the partitions of the same height as the sections.

In any event we hope that our readers will not be prejudiced against the new container, as we firmly believe it has merits that will shove it to the front, and possibly crowd its wooden competitor out of the field entirely. This season will probably determine to a great extent its future.

DEAD OR PICKLED BROOD MORE PREVALENT THIS YEAR; HOW TO RECOGNIZE IT.

THERE has been considerable dead brood reported from various sections of the country—rather more this season than usual. We can account for it only on the ground of the cool backward spring, and the scarcity of natural pollen. As a general thing the bees are able to secure nitrogenous food in the spring much earlier than they did this year. When there is a scarcity of this commodity in the hives some of the young larvæ die, because they do not have, as we say in poultry parlance, a "balanced ration."

Much of the so-called pickled brood, and perhaps all of it, is nothing more nor less than starved brood, even though there is plenty of honey in the hive. Very often we find dead brood when there is a lack of nurse bees. In that case we would have to call it neglected brood. Larvæ that die from want of proper nourishment show some marked characteristics, and perhaps a description right here will allay the fears of some who may think they have foul brood.

Dead brood is noticeable, usually, in the cells not sealed. The larva lies on its back in the bottom of the cell, with its two ends curved upward. Just after its death there appear two little black specks, one at each end. This blackness continues to extend down the length of the body; and when this dark color meets from both ends the larva begins to shrivel up; but, unlike foul brood, the grub does not melt down into a shapeless mass. In this respect it looks like black brood. But it differs from that disease in that there is no appreciable odor, no suggestion of foulness. Foul brood stinks horribly—more so than any other brood disease by far. Black brood has a slightly foul odor combined with a yeasty, sour smell.

Ordinary dead brood will appear in a good many hives in a bee-yard when the combs have been exposed or when there is a lack of pollen as there was this year; but, unlike the real black brood or foul brood, the dead specimens will be removed in two or three weeks.

WHY IS IT THAT BEES ARE MORE INCLINED TO STING AT TIMES THAN OTHERS?

SOMETIMES bees are "pesky mean," as the boys say; at other times they can be handled like kittens. A few days ago we had occasion to go down to our Harrington yard and put on some supers. The bees were coming in heavily from the oak and hickory trees, from which they were gathering honey-dew. They would roar on these trees early in the morning, and more or less all day, unless interrupted by thunder showers, which were more or less frequent at the time.

On the occasion referred to, the bees were coming in heavily laden with honey-dew. The sky was becoming overcast with dark clouds; there was a low rumble of distant thunder; the bees were pouring in pell-mell to get in before it rained. There was a little dash of rain, but we paid no attention to it and went on with our work. Oh! but the bees were ugly! They stung through the clothing—everywhere over the body. They had been interrupted, and the light storm-dash had spoiled their fun. We went on giving room, and in the mean time some of the big colonies were just determined that we should keep away. The onslaught of their attack was furious. At times we had to retreat in inglorious defeat. Back we went at them again with heavy clouds of smoke, for that was the only way we could conquer them. Next day we went down to this same yard and handled those colonies again. Not a bee offered to sting; all was quiet and serene. Why was this? The conditions were different. The sky was bright and the bees were busy in the fields.

Our man had a similar experience at the basswood yard on this particular day when the bees were so cross at the Harrington yard. The weather conditions of an impending storm were about the same; but this time the bees manifested their ill will toward both man and beast. There was a field of corn right next to the yard, and directly in line of

the flight of the bees. The bees were returning to the apiary in great droves. The storm interrupted their work temporarily, and in the meantime the farmer with his team was trying to cultivate this corn. The bees became furious, drove the farmer and his horses off the field, and so enraged did they become that they attacked the horses in bunches, and at one time it was feared serious consequences might follow.

At first we were afraid there might have been some robbing, but there was no evidence of any. We have come to the conclusion that the crossness was due to the sudden interruption of the field work, for bees are usually crosser right after a little dash of rain. It is probable that, when they started to the fields again, they were unable to get nectar, and on their return attacked every thing in sight.

Fearing a repetition of this trouble on other days, we supplied the farmer with large blankets, covering the bodies of the horses, as well as the heads, with holes cut out for the eyes and nose. In the mean time the weather changed, and our neighbor did his cultivating without interruption and without protection for the horses.

But this black honey-dew seems to have the effect of making the bees crosser than we have ever known them in all our experience. It does not seem to make a great deal of difference what the strain of bees is. They will have their good and bad days. The probabilities are that, while the bees are working on this honey-dew, a rain washes it off the leaves more thoroughly than the nectar is washed out of the blossoms of the clovers or basswoods. Basswoods, with their blossoms hanging downward so as to shed water, especially are less affected by rain than clovers and other blossoms pointing upward.

BEES CROSS AT VERNON BURT'S.

Later.—After writing the foregoing, we had an interview with Mr. Vernon Burt, our honey-man of this locality. He reports that this honey-dew from hickory and oak is being gathered in his locality; that he never knew the bees to be so cross as this year. So vicious are they that they have stung him through the clothing repeatedly—just as they had done for us at the Harrington yard. He attributes the cause to the sudden stoppage of this honey-dew honey after the bees got nicely at work on it. A dash of rain will wash all this saccharine matter off the leaves of the oaks and hickories so completely that the supply is entirely cut off, and hence the irritability of the bees.

GLOVES FOR CROSS BEES; HOW TO MAKE GLOVES STING-PROOF.

During one of the onslaughts, when the bees seemed particularly furious at the Harrington yard, we put on a pair of long-sleeved gloves with the fingers cut off. While these protected us to a certain extent we discovered that their *very protection* was the means of our getting some stings that we would not have received otherwise. With the bare

hands and wrists one can always feel the preliminary clutch or clawing of the bee into the skin *just before* it delivers its sting. It is this preliminary grab that gives warning; and if one is quick enough he can rub the bee off, or crush it, and so avoid the sting. Now, when one has gloves on, the bee can work its sting through the material, and, presto! the wearer has received a sting without warning. We seldom wear gloves; but on this particular day when we wore them we received a good many stings through them and we are of the opinion that, had our hands been bare, we could have saved some of these jabs, although others might have been received that were warded off by the gloves.

Nearly all gloves can be rendered sting-proof to a great extent by putting on them a coat of white-lead paint. The gloves which we wore had no coating of any sort. They were a little small, and therefore tight-fitting. It is important that a glove be *loose-fitting*, so the material of which it is made will not come in contact with the flesh of the hand or wrist at every point. When it is given a coat of paint it will afford good protection. However, we have no use for gloves of any sort except when bees are awfully cross, and hereafter we will see to it that they are a little large.

A BAD STING.

Speaking of stings reminds us of an occasion when we were stung near the nail of the middle finger of the left hand. We were giving a demonstration of live-bee handling with bees taken from the cellar, for it was in the winter. At the time of receiving the wound we had a frame of bees in each hand, and it was impossible to extract the sting. The result was a very severe wound; and by the time we could remove the sting, almost the entire contents of the poison-bag had been injected into the flesh. We thought nothing of the matter, but were painfully conscious of having received a jab that was excruciating, to say the least. Thinking the pain would let up, we thought nothing more about it. Along in the night we noticed that the finger was beginning to turn black and to swell—something that does not ordinarily happen with us. The fever of the affected member became so high that sleep was impossible. Fearing blood-poisoning we opened up the wound a little and began vigorously sucking the finger. In the course of half an hour the swelling had gone down, the black discoloration had disappeared, and, very largely, the pain.

We have never known a case of blood-poisoning following a sting; but as this was received from a bee that had been taken from a bee-celllar in midwinter, it possibly had not the opportunity to cleanse itself as it would do if it had been flying every day. Whether any thing serious would have resulted had we not taken the precaution to open the wound and suck the finger we can not say. We merely mention the incident, thinking that possibly others may have had a similar experience.

STRAY STRAWS

BY DR. C. C. MILLER

YELLOW alfalfa—is it common? A few stalks on my place.

BEES BUSY, July 1, on alfalfa on my place. [But you do not say whether they are busy on any thing else.—ED.]

SWEET CLOVER of white variety 26 days later than the yellow, here, in blooming. [About the same here.—ED.]

ONE TIME I put brood over enamel cloth on top of sections, as mentioned on p. 398, and sections were badly darkened.

L. C. TAYLOR'S experience, p. 412, agrees with my preconceived notion, but is not conclusive. The result might have been the same without excluders.

LET ME ADD an amendment to E. D. Townsend's plan for preventing a second swarm, p. 408. Instead of setting the old hive at a distance right away, let the two hives stand together for a week, then move the old hive away. That stops all honey coming in about the time for second swarming, and is a surer prevention.

AN ITEM copied from GLEANINGS is going the rounds of the German journals, advising to stop robbing by piling hay or straw at entrance, but leaving one corner of the entrance *open for the bees of the colony*. That last nullifies the whole business. Pile straw a foot deep all about the entrance; don't leave any opening for anybody, and keep straw well drenched with water. It greatly discourages the robbers, but will hardly act permanently with a weak queenless colony. The bees of the colony will dig their way through the wet straw. [Our German contemporaries have certainly got our instructions a little mixed. We never have advised leaving one corner of the entrance open for the bees of the colony. This must have been an interpolation. We endorse all that Dr. Miller says, and we do not know how it would be possible to check robbing by the wet-grass plan by leaving part of the entrance open or exposed, as is quoted from the German journals.—ED.]

T. W. COWAN says wax is yellow from the start. I sent him a bit of virgin comb melted up that was dirty, but fairly white. *British Bee Journal's* bright paragrapher, L. S. Crawshaw, wants to know more about it. There's little to tell. I think all virgin comb in my apiary is white. (I'd hardly call melted cappings virgin.) The rendering has nothing to do with it. I doubt if there's any perceptible tinge of yellow in the wax-scales as they come from the wax-pockets. In England they're yellow, at least well tinged. How is it at Medina and elsewhere in this country? Remember that a single scale will not show the tint like a melted mass. [This question of the color of new wax depends very largely upon the conditions of locality and season. In our locality new comb is

usually pearl white; but this year, owing to the large amount of dark-colored honey-dew and much pollen that have been gathered, the new combs are taking on in some cases a very light yellow hue, while in others they seem to be almost white. We suppose this is owing to the fact that some colonies will gather more of this dark stuff, while others will gather less of it and more of the white honey. In some localities we have seen that the new combs are muddy white. In most instances this is due to their proximity to old combs; but in others it is clearly owing to the character of the honey and pollen that are gathered. But the question may be asked, "Why is commercial wax yellow and brown?" Probably because most of it comes from old combs containing more or less of pollen and some dirt.—ED.]

A PRETTY MESS you've got me into, Mr. Editor. Three different German bee-journals are saying things about me for saying it was "stupid clannishness" for Austrian bee-keepers to come so near the size of the Langstroth frame and not have its exact dimensions. See Straw, page 98. Good German friends. I never said any thing of the kind. It was that editor in a footnote. Go for him—good and hard. I cheerfully concede that I don't know as well as you what fits your conditions. The one bad thing about you is that you print such good bee journals in a language so hard for me to read. [But you do know, doctor, that a frame that has only ten square inches more of brood space than the regular Langstroth can not be appreciably better than the standard Langstroth, that is standard in the United States and Canada, and standard in a good many of the South American colonies, as well as in some parts of Europe and Africa. The point we were trying to make is that, when the Austrians were adopting a standard that was *almost* the same thing as our Langstroth, why did they not take something that would be *exactly* the same, and thus save a great deal on the cost of the supplies? Many orders come from Europe for American goods, and our Austrian bee-keepers would have saved materially in the cost of frames and hives from this country by adopting Langstroth dimensions. In this case a miss is as good as a mile. If they had adopted dimensions that were *essentially* different, both as to the number of square inches and as to the shape of the frame, then we could see, perhaps, some reason why their local conditions might demand such dimensions.

A few years ago you used a frame that was almost Langstroth, but not quite. You found it enough advantage to discard all of your almost-Langstroth hives and frames to adopt the regular standard Langstroth, not because you found you would gain in honey or in convenience in handling the bees, but because you would save materially in the cost of the supplies; and, what is more, those same bees when housed in standard hives and frames would bring a higher price in the open market than on something that is just a little different.—ED.]

BEE-KEEPING IN THE SOUTHWEST

BY LOUIS SCHOLL, NEW BRAUNFELS, TEX.

JUST A PLAIN BUTCHER-KNIFE.

No need to fear, Mr. Editor, page 359. When a downward stroke is used, the comb is leaned over slightly; the cappings fall away. Why! 'tis just as easy. It is just as you would cut off a beefsteak on a block in front of you. You wouldn't think of drawing your knife *up* in doing this. Neither would you want a clumsy, bevel-edged knife to cleave off a nice thin steak. No, a good sharp butcher-knife is the thing for that; the same for me for shaving off those cappings—just a plain sharp knife, of *good* steel and the proper shape, length, and weight.



THE EARLY BIRD CATCHES THE WORM.

But how are you going to be early with a honey crop to catch the high prices before the other fellows come into the market if you have a short or slow flow, and that especially with your early flow yielding you only from 25 to 35 lbs. of surplus, or for an entire poor year? If this is stored in the much-used deep ten-frame L. extracting-supers it will hardly be in condition to be taken off. Very little of it will be sealed, owing to the combs not being all filled, and one must wait for them to be completed. But not so with shallow supers. We have found a greater difference in this respect this season than ever before. Our spring crop was a slight one, but the bees went to work in the shallow supers. In the deep ones they hesitated. There was too much room for the sparing yield. The result was that those in the shallow supers not only started earlier but finished more, soon needing a second super.

While the deep L. supers contain quite a quantity of honey, very little of it is ready to take off, as it is scattered throughout the combs, with some green honey intermixed, which the bees are still bringing in sparingly. It is not profitable to go through these supers and remove only the completed combs, of which there are few, as it consumes entirely too much time.

With the shallow supers we find all the upper ones completed, sealed over, and ready to be taken right off. The honey is riper since the bees began earlier, and has been stored more nearly at the same time, and always in the uppermost part of the hive. Is there any doubt about this being a superior grade of surplus honey over that which is stored in deep combs, besides enabling us to produce more of it, and that earlier, in the shallow supers than in deep ones?

It may be said that a really true bee-keeper does not fuss (?) with such work as removing surplus honey when there is only such a little to take. But suppose that is all

you have made in a poor season, and you must take it off; or, in a case like ours, you have *early orders at a good price*. Such opportunities mean just so much more profit for us; and while it may well be called "fussing" if deep combs are taken into consideration it does not apply with the shallow supers.

Just stop and figure. We get earlier honey, of better quality, and for a better price, and all that with less work or "fussing," if you please, by using shallow-frame supers. Applied to only a single colony or one apiary, the difference is not so very perceptible. Apply it to hundreds of colonies in more than a dozen apiaries, and—? It is an easy matter for us, with smoker in hand, to proceed from colony to colony, removing each upper super, without handling a single comb, at the rate of more than a ton an hour for a single person, of this superior early surplus honey, which makes its production more profitable than by what we call "the old way."



TEXAS BEE-KEEPERS' CONVENTION PROGRAM.

July 27—30, 1909. These are the dates of the next annual meeting of the Texas Bee-keepers' Association, at College Station, at A. and M. College. It is during the meeting of the Texas Farmers' Congress, one of the greatest agricultural organizations of the kind, and it is worth anybody's time to attend. One cent a mile railroad fare on all roads. This is cheap enough for all. Everybody is invited. Make up your mind to help make this the greatest meeting ever held.

Our program is found below:

First day—roll-call. Prayer by W. A. Sampey; President's annual address; reception of members. "Past and Present Status of Bee-keeping in Texas," by Louis H. Scholl. "Extracted Honey and Why I Produce It," by T. P. Robinson, J. T. McGuffin; "Supplies for the Apiary; what I Recommend, and Why," by W. H. White, Udo Toepperwein.

Second day.—"The Co-operative Merits of the 8 and 10 Frame Hive," by F. L. Aten, Harley Johnson; "Bee-keeping from a Specialist's Standpoint; Does it Pay to Mix with Other Business?" by W. O. Victor, C. S. Phillips; "Out-apiaries (discussion as to the rights of the landlord on whose property bees are located)," by I. B. Manlove, J. W. Taylor; "Comparative Merits of the Different Races of Bees," by Wald C. Conrads, Hugo Sattler; "Artificial Increase, the Best Methods," by Willie Atchley, Wm. Cravens; "Out-apiaries, their Management and Care," by W. H. Laws, A. T. Mills.

Third day.—"The Honey Market, and How shall we Improve It?" O. P. Hyde, Udo Toepperwein. "The Best Manner of Rearing Queens for the Honey-producer," John W. Pharr, F. L. Aten; "The A. and M. College Experiment Apiary," by Ernest E. Scholl. Report of Committees. Election of Officers. Adjournment.

The program has been arranged by Mr. Laws, our committee on program, and it is hoped that each participant will "be there" with a good talk. In addition to the meeting there will be an exhibit of all kinds of things pertaining to apiculture, and every one of our bee-keepers should bring or send all he can to make this feature a creditable one also. Premiums of all kinds will be offered that will be worth winning.

As soon as you see this make your arrangements to go. July 27 to 30 are the dates. Don't forget them.

SIFTINGS.

BY J. E. CRANE, MIDDLEBURY, VT.

Louis H. Scholl's views on spring cleaning, page 156, March 15, are just as applicable to the Northland as to Texas—saves lots of bother during the busy season.

That new trick on robbers by Louis H. Scholl, page 227, April 5, is well worth remembering, for it seems usually those quaker-like colonies that give us the most trouble in being robbed. This seems to be a world where Providence appears to favor such as stand up for their rights, and bees are no exception to the rule.

The *World's Work* for June opens a health department; and it is an interesting fact that in their list of foods in the order of their excellence for general purposes they place honey fourth in the list of 24 kinds—only fruits, nuts, and grains, including bread, coming ahead of honey. Pretty good! They do not even include glucose (excuse me—I mean corn syrup) in the list.

I have been surprised this spring, in looking over my bees for queens, to find so large a number of young last-year queens, even where there was very little swarming. This shows there must have been a good many supersedures last season after the heavy flow of honey. Still we find my old queens failing this spring, showing that not as many old queens were superseded as should have been.

To promote alsike growing it would be well to furnish leaflets giving complete information as to the great value of alsike clover and its cultivation, and printed so as to be placed in the local seed-stores for gratuitous distribution to farmers. Something of this sort has been gotten out; but, as I remember, it was more largely extracts from agricultural publications rather than giving its great value as a forage-plant. The same course might be pursued with buckwheat.

Speaking of clovers reminds me of the very sensible editorial on artificial pasturage, page 187, April 1. I believe no better investment can be made by extensive bee-keepers than by pushing the cultivation of Swedish clover and buckwheat where the soils are suitable. I believe it would be good business policy to furnish the seed at half cost to all within one and a half miles, or even two miles, as I am satisfied we should find it much to our advantage to do so.

On page 190, April 1, Dr. Miller favors a tight board fence for windbreak, as it will be helpful twenty days to one that it will be disadvantageous. Yes, doctor; but that one day may ruin your colony. Better by far a picket fence, or, best of all, a run of ever-

greens or a forest that will break the winds but will preserve a somewhat uniform temperature. In two of our well-protected yards numbering 149 colonies we have lost but one colony, and that from starvation; and we are making artificial swarms to prevent natural swarming (June 1).

I was, as doubtless many other bee-keepers were, interested in the article by Mr. Morrison, page 242, on the life and death of E. L. Pratt. He was a kind of enigma to me, as he did not, so far as I know, write under his own name, and some way we had not fully understood him. Many thanks to Mr. Morrison. One can not easily forget the life-like photograph of Mr. Hooker and Mr. Pratt on the same page. Somehow I enjoy the pictures in GLEANINGS quite as much as any part, and wish I had earlier learned the art of picture-making. The bee-keeper of the future should learn to take pictures as a part of his profession.

A great deal has been written during the last few months as to the drouth or winter-killing of clover. We can judge now better than ever as to the results of last year's drouth. We find that, where the drouth was most severe, we have the least clover, especially white, of which there is little. Alsike or red, where it was able to get down into the earth deep enough to find moisture, fared better; but much of the alsike from seed sown a year ago, from which we expect our best yields of honey, was badly killed by the excessively dry weather of last summer. A few miles to the north or south or east it has, owing to showers at the most critical time, come out much better. We have had one of the most favorable winters for clovers; and, followed by a wet spring, it makes the prospects much brighter than would otherwise be possible.

QUEENS DIE IN CELLS BECAUSE OF POOR FEED.

Last August we had some frames of queen-cells die just after being capped over, and we attributed the cause to some sugar syrup that had been standing in a tin can for some time. The trouble disappeared when we used fresh syrup, and all the cells we are raising now are healthy. We wrote Mr. Gates in regard to the matter, and he replied that he had experienced the same trouble, and had not ascertained the cause. Have you ever had any thing of this nature occur in your yard?

W. W. CARY & SON.

[We referred the matter to our Mr. Bain, of the home yard, and Mr. Pritchard, of the north yard, who are rearing our queens. They have experienced no trouble such as you describe. Our Mr. Bain, however, says that he has occasionally had queens die in the cells, and always attributed the cause to the queen. When he tried other queens he experienced no further trouble.—ED.]

QUEENS INJURED BY SHAKING.

Is there much danger of injuring a queen when heavy with eggs by shaking her and the bees promiscuously on the hard ground?

Moorpark, Cal.

C. A. EVERETT.

[If a queen is shaken with a lot of bees on the grass there will usually be no damage done. If the shaking is to take place over hard-packed ground or over a board we would advise picking her off the comb first.—ED.]

CONVERSATIONS WITH DOOLITTLE

AT BORODINO, NEW YORK.

BEES GO FROM ONE FLOWER TO ANOTHER.

In gathering honey, bees do not visit different kinds of flowers in one trip, but gather from one kind of flowers only. This is right, is it not? Please tell us in GLEANINGS. Two subscribers to that paper do not agree in this matter.

Now, if this correspondent had merely said that bees gather *pollen* of one color on one trip I should have agreed with him, for I never saw a bee with mixed colors of pollen in the pollen-baskets, although I have many times seen different-colored pollen put into one cell. But when we come to honey, I have repeatedly seen bees fly from a currant to a gooseberry bush, and from raspberry bloom to clover, and *vice versa*. I have also seen bees gathering nectar from red, white, and alike clover at the same time. I have seen them go from the red variety of raspberry to the black, where the different kinds of bushes were planted side by side, and from catnip flowers to the bloom on motherwort, where these grew near together.

CELL-CAPPINGS.

What is the significance of finding in the morning, say from twenty to one hundred little round caps of wax near the entrance to some hives, while others do not have any?

So far as my observation goes, such caps signify that drones are emerging from their cells; for if one will take the time to examine he will find that the drone, in emerging from the cell, bites the cover to the cell entirely off by a smooth cut, while the workers leave only fragments of the cappings of their cell-coverings in gnawing out when emerging. The queen cuts off the capping to her cell the same as does the drone, except, as a rule, a little piece on one side is left which acts like the hinge to a door, the door often being pushed shut, or closing after the queen has gone out. If it is thus closed, the bees often make it fast, so that the bee-keeper is often deceived into thinking that the queen has not emerged. I have many times used such in my earlier years of bee-keeping, giving them to queenless colonies. Then it often happens that, as soon as the queen has emerged from her cell, a worker goes into the cell to partake of the royal jelly or queen-food left in the cell, after which the cell-cover flies back or is pushed shut by some bee in passing, when this worker is a prisoner. This has caused many to think that the inmate of the cell was not a queen but a worker; and for this reason, as they had cut all cells but the one, they called their colony queenless, and sent off for a queen, or wrote to some of the bee-papers about the strange phenomenon. Occasionally some bee-keeper supposes that the round caps spoken of by the correspondent indicate that cells of honey are being uncapped preparatory to the carrying of the honey from the outside to the center of the hive, as is done in the fall of the year when a colony is preparing for winter, and at other times when a scarcity

of honey occurs. But this is a mistake, as the cappings to the honey-cells are gnawed off in little fragments, and not in the round form spoken of.

PART OF SWARM RETURNING TO OLD HIVE.

A swarm came out the fore part of July, clustered, and was hived. In the evening, or near sunset, most of the bees returned home, leaving about a pint in the new hive. These remained six days, when they swarmed out and clustered on a limb. I found the queen with them. What made so many of the bees leave their queen and return to the old hive whence they came?

This correspondent touches on something which rarely if ever finds a place in print, notwithstanding it is a most perplexing thing, and one that occasionally happens in the best-regulated apiary where natural swarming is allowed. The general cause is, that a few (or perhaps many) strange bees from another swarm, or elsewhere, alight with the cluster; and, after the swarm is hived, anywhere from fifteen minutes to six or eight hours, some of these strange bees come in contact with the queen, and her own bees, fearing she will be harmed, ball her, or, in other words, cluster around her for safe keeping or for some other purpose—just what, I never knew. When the queen of a newly hived swarm is thus balled, the majority of the bees seem to think that they have lost their queen, and so return to their old hive, just as they would go back after clustering on a limb for a while in case the queen is kept back on account of a clipped wing, etc. However, in such a case as this the bees in the ball, and those immediately surrounding it, realize that their mother is in the ball, and, therefore, do not return. If the apistar sees that the bees from the hived swarm are returning, and tries to stop this matter by covering their old hive, they will try to go into other hives rather than go back to where the balled queen is, which almost always results in a general row, to the disgust and perplexity of the one who is trying to keep them where they belong.

In my earlier years, when swarming was allowed for increase, I had a large proportion of swarms killed in this way by their trying to go into other hives, or else I had to let them go back until I learned how to keep them where they were, even if they did ball their queen. At first I hunted out the queen by smoking the ball of bees till they released her, when she was caged and placed between the frames of comb, or hung down from the top-bars of the frames where no combs were used. In about half of these cases this seemed to satisfy them, while at other times they would ball the cage so it did no good. I next got the queen as before; but instead of using a common cage I made a large flat one to reach clear across the frames, when the bees could smell and get at her through the wire cloth between every two frames in the hive. This always satisfied them, so that I had no further trouble, except that of hunting out the queen and caging her. The next morning I could let her loose and remove the cage, and all would be well; for by this time the bees would have the same scent, and would acknowledge her as their own queen.

GENERAL CORRESPONDENCE

EXTENSIVE EXTRACTED-HONEY PRODUCTION.

Hot or Cold Uncapping-knives; More Honey and Cleaner-extracted Combs when the Power Outfits are Used; the Dr. Miller Foundation Splints a Success; How they Save Foundation and Prevent Comb Breakages.

BY H. E. CROWTHERS.

You ask for reports as to the desirability of hot or cold knives for uncapping. We use both at times, owing entirely to the condition of the honey. For recently gathered honey, extracted directly as taken from the hives, we use a cold knife; and for the larger share of our honey we prefer it. With extra-thick gummy honey, and especially if it is not as warm as it should be, a hot knife seems to be necessary. With a hot clean knife we are always sure to get a clean cutting edge at the start; and with a draw cut, either up or down, it is certain to go further than a cold knife would; and the smoothness of the job has considerable to do with the quality of work the extractor can do and the quantity of honey that will be left sticking to the combs with honey of this kind.

THE ADVANTAGE OF LARGE POWER EXTRACTORS OVER THE SMALL ONES DRIVEN BY HAND POWER.

Right here comes the advantage of having a large power-driven extractor, for it is possible to get the combs much cleaner of honey, with less damage to them, than with a smaller machine. We used a two-frame extractor at one yard last year, and in extracting less honey we broke many more combs than with the larger machine (extractor of six-frame capacity).

The large machine was run about 240 revolutions of the baskets per minute, with a one-horse gasoline-engine. The outfit is very satisfactory. The can of our machine is two inches larger than standard, allowing plenty of room to see when the honey stops flying to the side of the can, and also to provide room for the reel's free motion without striking the honey bunched up on the sides of the can, as I have often seen it do with the regular can, greatly retarding the reel and increasing the work of turning in proportion.

The brakes on those large machines are entirely too weak to stand the strain. They should be made stronger. Ours gave out before we had extracted 15,000 lbs. of honey.

SPLINTS FOR EXTRACTING-COMBS.

The use of splints with foundation is a big advantage, right at this time, in stiffening the combs at their weakest point, which is two inches below the top-bar. We used some in several different ways last year, and will use them on all full sheets this year with

two wires and four splints about five inches long for Langstroth frames. Of course, the main advantage in their use is in the prevention of sag in the foundation, and the securing of worker-cells in the upper part of the frame instead of sagged cells that are not fit for worker brood-cells. It will pay to use splints for the one advantage of stiffening the comb for extracting, because they save the combs from breakage.

In our experience last year there was no trouble caused by bees gnawing at the lower end of the splints; but I see no use for the full-length splint, and the short ones are easier and more quickly applied.

Light brood foundation with splints gives a much stronger comb for extracting the first time than wired medium brood foundation.

REMOVING FULL COMBS FROM THE HIVES.

The best plan for taking extracting-combs of honey from the hives that we have tried is this: Instead of each operator taking a hive by himself and smoking, removing, shaking, and brushing, two men working together pull out the combs and give them one good shake and pass them on to the third man beside the wheelbarrow, who brushes off the remaining bees and loads them in extra bodies on the barrow. This seems to save lots of time, and makes it easier for all. There is no time wasted in reaching for the dangling brush at every comb.

While the brusher wheels in the load, the next hive is made ready for business, and the brood-nest of the colony last visited put in shape. When enough is in for a good run, all hands work together inside.

SECOND-HAND HONEY-CANS.

About second-hand honey-cans, we have bought a great many more than we have used or will buy in the future, unless a different brand puts in an appearance. New cans are cheaper in the end so far as our experience goes.

There are altogether too many of the old cans that will be found unfit, generally from rust on the inside, for it takes very little rust to spoil a can for honey.

Parma, Idaho.

[We regard this as one of the best articles we have received this season. Why, it fairly scintillates with practical suggestions. We have asked our correspondent to send us further communications; for with his extensive experience and plain and forcible way of writing he no doubt could give us many a valuable hint.

As an evidence of the practical make-up of the man we should like to draw attention to one paragraph regarding his method of taking the combs out of the hive and conveying them to the extractor. He has so arranged his help as to avoid all false motions, to the extent that no time is lost. As he well says, when one man works by himself he must bring into play a variety of tools. To pick up one and then the other entails a loss of time. Now he is using the bee-smoker, and next a hive-tool, and, later on, feel-

ing for his bee-brush dangling down by his side. In this constant changing of tools he necessarily wastes time. There should be a division of labor by which one man will do one class of work and another one another, each provided with the necessary tool for performing his division of the work.

Mr. Crowther does not say just how, but we imagine that one of them handles the smoker and opens the hive; possibly the other manipulates the frames with a hive-tool, then both are free to shake the combs in the hive, or in front of the entrance. The man with the wheelbarrow has nothing to do but brush the few remaining bees from the already shaken combs and carry them to the extracting-house.

We wish to call attention to this method of taking off the combs, because we believe that it economizes labor. The late Mr. E. W. Alexander pursued a plan somewhat similar; but instead of using a wheelbarrow he employed a comb-carrier. The uneven, hilly character of the ground on which his apiary was located made this almost a matter of necessity.

There are a number of other practical suggestions all through this article, and we commend it to the careful reading of every one of our extracted-honey producers at least.—ED.]

HONEY VERSUS CANE SUGAR.

BY MRS. B. R. WINSLOW.

[At various times we have had calls for a brief and yet comprehensive statement on the general subject of honey as a food; why it is superior to other sugars, and how it can be used in general cookery. The following article is not only accurate as to facts, but is so well stated that we suggest that our readers, especially those who sell honey, get the same published in their local papers. It is brief and to the point; and almost any editor would be glad to publish it if a polite suggestion is given from a resident bee-keeper to that effect.—ED.]

A child's craving for sweets of some kind shows a real need of the system in that direction; but, unfortunately, the sweets at hand and usually given to supply this need are not wholesome, and serve no better purpose than to please the child's taste. In fact, the work of changing the cane sugar into grape sugar so that it may be assimilated is often too great a tax upon the child's stomach, and sickness results. This, however, is not the case with honey. The bees have fully prepared it for immediate assimilation, and it is ready to be taken into the system without taxing stomach or kidneys. Doctors frequently order honey for those whose digestive organs are too weak to convert cane sugar into grape sugar properly. The wholesomeness of honey, however, is not disputed by those who know any thing about the product of the hive. The principal difficulty in the way of its substitution for the sweets usually craved by children is the apparent limitation of its use. The child has an inordinate longing for cakes and candy, and that is not always satisfied by bread and honey; therefore, to take the place of cane sugar,

honey must be prepared in the same manner as cane sugar. It must be made into cakes and candies and other dainties dear to the children. The object of this article is to supply housekeepers who desire to substitute honey for cane sugar, in the diet of their children, with a few simple recipes, obtained from practical experience, for making this wholesome sweet into a variety of pleasing confections.

A few suggestions on the care of honey may be of benefit to those who are so situated that it is cheaper to buy in quantities. The worst place to store honey, or even to keep it for a short time, is in the cellar or any damp cool place. Honey, when extracted from the comb, readily absorbs moisture, becoming thin, and (in time) sour. The very best place to store honey is in the attic, up next to the roof, where it is hot. During cold weather, honey that is kept any length of time has a tendency to granulate, turning to a white, semi-solid granular condition. This is called "candied honey," and it frequently "candies" so solid that it must be dug out of the bucket with a knife. It is a simple matter, however, to restore it to its former condition. Place it in hot water, never over 160°, and let it stay until it has liquefied. It may take an hour or it may take a whole day.

In the following recipes quantities are given in pints and pounds because the success of honey recipes depends upon the right proportion of the ingredients. All cups are not the same size, and do not hold the same quantity of material, therefore it is best to use a standard measure.

The simplest honey cake is the honey ginger-snap

One pint of honey; $\frac{3}{4}$ lb. butter; 2 teaspoonsful ginger.

Boil together for a few minutes, and allow it to get nearly cool. Add enough flour to make a stiff dough, and roll out thin; cut into round cakes and bake quickly.

Another simple cake is the honey cookey. The recipe is given for a large quantity because they will keep indefinitely, and they are nice to have in the house all the time for the children to eat between meals. If they are wanted in smaller quantities the recipe can be reduced a half or even one quarter.

One pint honey; 1 quart sour milk; 1 teaspoonful soda.

Mix well together and add sufficient flour to make a soft dough. Roll moderately thin and cut into round cakes. Bake in a slow oven to prevent burning.

A richer cookey is made by the addition of butter and eggs. One pint honey; $\frac{1}{2}$ pound butter; 4 eggs; $\frac{1}{2}$ pint buttermilk or clabbered cream; 1 quart flour; 1 teaspoonful soda.

Mix the honey and the butter and the eggs well and add the buttermilk. Sift in the flour and soda, and mix well. Mix in enough flour in addition to the quart to make a cookey dough that will roll out well without sticking; cut in round cakes and bake in a slow oven.

In the line of confections, some sugar must be used to make the honey "candy," but the

home-made honey caramel has the advantage of being pure.

One pint honey; 1 lb. sugar; scant gill of cream.

Boil until it makes a soft ball when dropped into water. Stir in a teaspoonful of vanilla, and pour it into a shallow buttered pan to the depth of about half an inch. When cool enough to prevent its sticking to the knife, cut into inch squares. If chocolate caramels are desired, use a tablespoonful of melted chocolate instead of the vanilla, stirring it in just before pouring into the buttered pan.

To make honey popcorn balls, boil a pint of honey in an iron frying-pan until it is quite thick, and then stir in the popped corn. When cool, mold into balls.

As a substitute for tea or coffee for children there is nothing better than honey tea—a very simple tea made by adding a tablespoonful of honey to a cup of hot water. If not sweet enough to suit the taste of the child, add more honey.

Washington, D. C.

BEE-KEEPING FOR WOMEN.

A New Accession to the Ranks.

BY MISS MABEL VANDERGRIF.

With a perfect understanding of the heights to which I have attained, I now take the liberty, some may call it the presumption, of introducing myself to the readers of GLEANINGS as a California bee-keeper.

Admittedly aware of my own limitations, I hastened to confess that all I know as yet concerning a bee is that one end gathers, or may be expected to gather, honey, while the other end stings, or, at least, may be expected to do so. It is now two months since I left New York city for the good of my health; and it is one month ago since, arriving in California, I immediately became an apiarist for my financial well being. A rancher, a native son, sold me three hives. I was then advised to purchase queens. Now, in New York city one may select from three brands of eggs—strictly fresh, fresh, and just eggs. It now appears that the California bee-market is stocked with three brands of queens—selected, tested, and just queens.

Before being somewhat in the position of the donkey that died of starvation between two heaps of hay because it could not make up its mind from which heap to take its first mouthful, I was fortunate enough to meet a sagacious (though rather profane) French bee-expert. From the latter authority I accepted three Italian tested selected queens. And this Frenchman, probably on Sis Hopkins' principle that "it pays nothing to do nothing for nothing for nobody," accepted my \$15.00.

My health has wonderfully improved—thanks to the California climate. Green alfalfa covers all the bottom lands of this valley; green sage brush covers all of the surrounding hills, and I, however green as yet

as regards the niceties of apiculture, expect speedily to notice an improvement in my financial condition—thanks to my California bees.

Hope has been defined as a belief in a future event, and the future event in which I have a thorough belief is the advent of tons of honey.

Readers of this publication may expect to be made aware very soon of the success of Mabel Vandergrif, *Bee-keeper*. Escondido, Cal.

[We shall be pleased to hear from our correspondent again. We hope that her "hope" will be a reality.—ED.]

TRAVEL-STAIN.

The Crane Honey-board for its Prevention Means More Uniform Work in the Supers.

BY J. E. CRANE.

I have just received a letter from Mr. King, of Texas (who formerly worked for Mr. Harbison), showing that the style of honey-board which was so nicely illustrated in the Dec. 15th issue, page 1507, is no new thing, since Mr. Harbison used one almost or quite identical, some thirty years ago, for an entirely different purpose. As I have put on the boards rather late, or when the combs were ready to seal, their value for the purpose Mr. Harbison used them for was not so pronounced; still I have noticed that, where these boards were used, the supers were filled more perfectly, especially if put on soon enough. These boards may prove of considerable value for this purpose. The testimony of such a man as Mr. Harbison, as to the bees storing as much honey with such boards below the supers as without, is of value.

Middlebury, Vt., Jan. 1.

[The following is the letter of Mr. King referred to.—ED.]

Dear Mr. Crane:—Your article on honey-boards, page 1507, Dec. 15, brings to mind some of my experience over thirty years ago. I was then working for Mr. J. S. Harbison, of California, who was operating three or four thousand colonies. On all his hives he used a honey-board with no openings except on each side. To get to the sections the bees had to pass up between the outside comb and the side of the hive. I thought he was losing honey by not having easier access to the sections; but he insisted not. His object in using such a board was not to prevent travel-stain, but to get the outside sections better finished, and it served that purpose perfectly. As you may know, his two-pound sections were fastened together with a wooden strap, making a solid box of eight sections, and it was quite necessary to have the end sections well finished. I wonder if he was not the real originator of our modern section box. If he was not the first to use a box with a single comb, I think he was the first to give them the name of "section box"

—a name quite appropriate to his box, but not to the box as now used. I. A. KING.
Derby, Texas, Dec. 28.

SYMPORIUM ON ALSIKE CLOVER.

Does it Cause Poisoning or Scrofula in Stock that Eat Largely of it? Are White-nosed Horses More Easily Affected?

BY W. W. CASE.

[In our issue for June 15, p. 369, one of our Canadian correspondents, Mr. J. L. Byer, of Mt. Joy, Ontario, Canada, while asserting that he was a champion of alsike clover as a honey-plant, yet regretted to observe that, in his locality, it was decidedly objected to for pasture for ordinary stock, the claim being made by the farmers that it poisoned the animals, causing a species of scrofula with running sores. He further stated that he was forced to admit that he had seen a number of such cases, a few of which ended fatally, and that in each case the veterinarian diagnosed the trouble as "alsike poisoning." "It is conceded," he went on to say, that "white-nosed horses are more susceptible to this poisoning than other animals without this facial mark." In relation to this, see what W. W. Case has to say herewith.

In our footnote we took occasion to say, in reply to the article mentioned above, that alsike was grown very largely in our locality, and that the farmers were so well pleased with it that they were putting in more and more of it, substituting alsike in place of the red clover, as the latter seemed difficult to grow in many cases, and in some instances the soil seemed to be "clover sick;" that we were inclined to believe that the farmers in Mr. Byer's locality had notions that lacked actual proof, and we therefore asked to have the subject aired, letting the truth hit where it might.

In response to this the following articles have been received in the last few days. Apparently it would seem that the stock in the vicinity of Mt. Joy, Ontario, Canada, may be poisoned by something else. However that may be, the following articles will bear careful reading.—ED.]

I have read, with interest, J. L. Byer's article, page 369, June 15, on alsike clover. We introduced alsike clover into this section some thirty years ago; and while the clover has become thoroughly naturalized, almost as much so as the white clover, we have yet to learn of ill effects in its use as hay or forage. In fact, we know of no farmers whatever who do not add it to their ordinary red clover in seeding, and consider it the most valuable part of their hay crop. Compared with red clover, which is covered thickly with fine pubescence, it is much less dusty, and agrees well with "heavy" horses, and is considered valuable for dairy cattle. Here, at least, the bitterness is so slight as to be scarcely noticeable. In fact, it can scarcely be recognized, even when the attention is called to it.

Now, I think friend Byer's statement, that "it is much more injurious to white-nosed horses than others," will eventually clear up the mystery of its hurtfulness to horses. White spots on horses are abnormal, and such spots are always found deficient in nerve power. Horses always distinguish between wholesome and unwholesome food by nose touch. White-nosed horses are frequently poisoned by eating poisonous plants that a normal-nosed horse at once rejects as unwholesome. It is never safe to turn white-nosed horses into fields containing plants of the Saint John's-wort family, as such horses eat it and die, while other

horses, through "lip touch," reject it as deadly. Now, I think a competent botanist would soon be able to ferret out the cause of poisoning; and when he is through, his report would relieve alsike from all blame in the matter. He would either find a poisonous weed ubiquitous with the clover, or perhaps a parasite that does the mischief. Whatever the cause, it is quite evident that the normal horse rejects it, for any poison that will kill a white-nosed horse will kill a horse with a nose of any color if he will eat it, which he very rarely if ever will do; hence if alsike clover will kill a white-nosed horse it will also kill any other horse that eats it. I will say here that one of the horses fed the past year on alsike was a "whiteface," and he showed no bad symptoms.

Quite possibly and probably, alsike-fields will be found infested with St. John's-wort of some variety, or possibly a member of the crotallaria (pulse family), a near relative of the clover. Not being acquainted with the flora of Ontario, any attempt to name the poison, at this distance, would be a mere guess; but we have no doubt whatever that the alsike will be eventually cleared of all suspicion.

Why not get the Ontario Bee-keepers' Association to get the Department of Agriculture of the Canadian government to take up the whole question and make a thorough investigation of the subject?

Frenchtown, N. J.

ALSIKE CLOVER THE FARMER'S FRIEND IN LANCASTER CO., PA.

Alsike Displacing Red Clover.

BY ELMER J. WEAVER.

There must be a great difference, either in soil or climate, between Canada and Lancaster Co., Pa., as the experience of farmers in Mr. Byer's vicinity is just the opposite of this section. Never have I heard of stock being poisoned, either by the hay or pasture of alsike.

Each season it is winning new friends as well as holding all friends of past seasons. The farmers, one and all, with a very few exceptions, say it makes a quality of hay that is fine-grained, and greatly liked by all stock.

About eight or ten years ago red clover formed the principal hay crop of this country, in mixture with timothy. Now nearly three-fourths is alsike, as it is almost impossible to get red clover to make a stand. No one seems to have a solution for the trouble with red, so more alsike is being sown each season.

Bee-keeping is greatly benefited by the change, as we have only a short season of fruit-bloom, and what few weeds escape the farmer's cultivators, to depend on besides clover, there being no forest trees, neither elm, linden, nor any fall flow to depend on, as all land is cultivated. An old bee-keeper,

possibly 75 years old, a few days ago said to me that if the farmers would stop sowing alsike clover he would stop keeping bees, as he was never so sure of a crop from red clover as from alsike, and when he did have a crop it was not as large as now.

The seed-dealers here are practically all pushing the sale of alsike seed to the exclusion of red clover. Some farmers are trying alfalfa, but are having great difficulty in getting it established.

Ronks, Pa.

WHITE-NOSED COLTS AFFECTED BY ALSIKE.

BY GRANT MCCORMACK.

I have had some experience with alsike pasture. Four years ago I had 15 acres of it, which my horses and cattle ran on at will, and about the time seed started to form I noticed one of my colts had a sore nose. I thought nothing of it, and a few days later I noticed it was getting worse. A little later another colt had the same thing, and still another of them got it. These colts were each two years old, and they all had "blazed faces" with pink on the nose—pink flesh, I mean. I called in a veterinary, and he prescribed for it, but didn't know what it was, nor did his prescription do any good. I cut the hay and put it in, as it was over a foot high, and the stock still ran on it. Those colts got better at once, and in three weeks were well, although one was the worst case I ever saw. The skin peeled off; it became raw by its rubbing the nose on fences; even its eyes were swelled shut. Another one had its feet affected.

This year I have some more alsike pasture, and the colt that was worst the first time had it again. I took her from the pasture, and now the sores are healed, 12 days from the time the sore started. It seems that the only time it is harmful is in the first crop, in which the seed is. I have put it up for hay, and never had any trouble at all. My eleven other horses, which do not have white noses, are not affected. This has convinced me that alsike pasture affects only horses with white noses.

Pontiac, Ill., June 20.

[See the article by Mr. Case, p. 429.—ED.]

AN OPINION FROM A VETERINARY SURGEON ON ALSIKE.

BY J. AIKENHEAD.

I have been practicing the veterinary profession since 1874—eighteen years in Ontario, and since that in Maryland, and I have never seen a case of poisoning from alsike clover. I have been called to see many cases supposed to be the result of poisoning from alsike pasture-fields, but have had dozens of the same kind of cases on pastures that never had alsike clover on them. Now, I have had many patients which, when green food was cut for them, would eat the alsike

clover first, showing they preferred it to other kinds of grass. I find from my experience that alsike clover makes the best kind of pasture for all kinds of stock, and ranks next to alfalfa for hay.

Easton, Md.

ALSIKE FOR SHEEP.

We have 50 black-top sheep which were fed on alsike clover all of last winter. They had bean-pods for a change, but they were fed no grain, and the flock has never come out in such a healthy condition as this spring. They sheared 13 lbs. per head. I put in a strong plea for the farmers to raise alsike clover, and especially those who have any colonies of bees. My bees were seen in the barn this spring carrying off the hay for pollen. I think this speaks well for alsike.

Mason, Mich.

W. L. CHENEY.

[We shall be pleased to have this subject discussed still further. Alsike clover is spreading with amazing rapidity all over the United States. We have been studying this question not a little, and to that end have made some long trips with an automobile, starting up in the vicinity of Lansing, Michigan, and going on south through Ohio. We have inspected fields and made general inquiries, and we find that the acreage of alsike is being increased enormously, largely for two reasons: First, the stock take well to it; second, it is an easy grower as compared with ordinary peavine or red clover. In some soils, where either of the latter will not grow at all, alsike takes hold readily.

If we may judge by observations made some ten years ago in a similar trip over the country on a bicycle, we should say that the acreage of alsike had been increased ten and twenty fold. In perhaps 50 per cent of the fields we find alsike and timothy mixed; in 25 per cent red clover and alsike; and in the rest, alsike pure and simple. Apparently, the best results are secured when it is mixed with some other hay.

The further fact that alsike-clover seed commands such a high price goes to show that there must be a tremendous demand for it, and this demand could hardly be so strong if alsike, either as a pure or mixed hay, were responsible for the so-called poisoning of the stock.

In the symposium mentioned above, it will be noticed that veterinarian Dr. J. Aikenhead says he has been practicing the profession since 1874, and that during all this time he has not seen a case of poisoning from alsike; that he had been called to see many cases *supposed* to be alsike poisoning, but that he has had dozens of the same kind of cases in pastures that have never had alsike clover.

We feel quite firmly convinced that, *when all the facts are known*, it will be shown that this poisoning is due to some other causes; for if in 75 per cent of the localities where alsike is grown very largely there is no poisoning reported, that stock thrive on it, it would be a natural inference that the trouble is due to a local plant or local condition.—ED.]

**SELLING 20,000 POUNDS OF HONEY AT
THREE CENTS ABOVE THE MARKET
PRICE.**

BY W. Z. HUTCHINSON.

The first year that my brother and myself produced honey in Northern Michigan we sold it to bottlers and consumers at 8½ cents a pound. This was about two cents above the market price. The advance was secured because the raspberry honey was something of a novelty, of superior quality, and was extensively advertised.

The next year a short crop, combined with a general upward tendency in the price of most commodities, enabled us to sell our crop of honey to the same class of customers at an advance to 10 cents a pound.

FINDING THE RIGHT CUSTOMERS THE FIRST STEP.

Last year (1908) there was a fair if not a bountiful crop of honey, and many bottlers who really preferred our honey found it impossible to pay 10 cents a pound for it. Honey nearly or quite as good could be bought at from six to seven cents per pound. We advertised our honey at ten cents, but orders were few and small; and we were not long in deciding that some change must be made. Either the price must be lowered or a different class of customers secured. Once a man has tasted the joys of ten cents a pound, they are relinquished with reluctance; besides, we felt sure there were men (actual consumers) to whom the honey would be cheap at ten cents; but the difficulty was in finding such men who would buy in large quantities. Heretofore our advertising had been confined to the bee-journals; but we now decided to venture into a new field, such as might be reached by advertising in the *Saturday Evening Post*. When the cost is nearly \$4.00 a line, the story must be exceedingly short, and the whole effort was aimed at inducing the reader to send for a sample of honey. Here is the advertisement that cost us nearly \$25.00 for one insertion in that paper.

HONEY gathered from the blossoms of the wild red raspberry, in Northern Michigan, has a raspberry flavor; shipped in tin cans, securely boxed, at ten cents a pound. Particulars and a generous sample by mail, ten cents.

W. Z. HUTCHINSON, Flint, Mich.

IMPORTANCE OF THE RIGHT KIND OF ADVERTISING.

Let's analyze it. First, the word "Honey" is printed in large type to catch the eye. Next, there is the reference to honey from the "wild red raspberry of Northern Michigan." Here is something of a novelty, with a tinge of romance. "Northern Michigan" alone calls up a picture of vine-wound thickets, mossy carpets, and "the cedar's dim

cathedral;" the "wild red raspberry" gives an additional touch to the picture; then to have offered honey gathered from this source, honey with a "raspberry flavor, there is conjured up a taste and a longing that can be satisfied only by actually tasting the honey. "A generous sample will be sent for only ten cents;" but before sending for a sample the prospective customer would like to know the price and how the honey is put up for shipment; and this information is given in the advertisement.

It may seem that undue importance is attached to this little advertisement, but it must be borne in mind that this is the foundation of the whole scheme. Once a reader's interest is sufficiently aroused to lead him to send ten cents for a sample, the right kind of after-management will often lead to a sale.

GETTING PAY FOR SAMPLES.

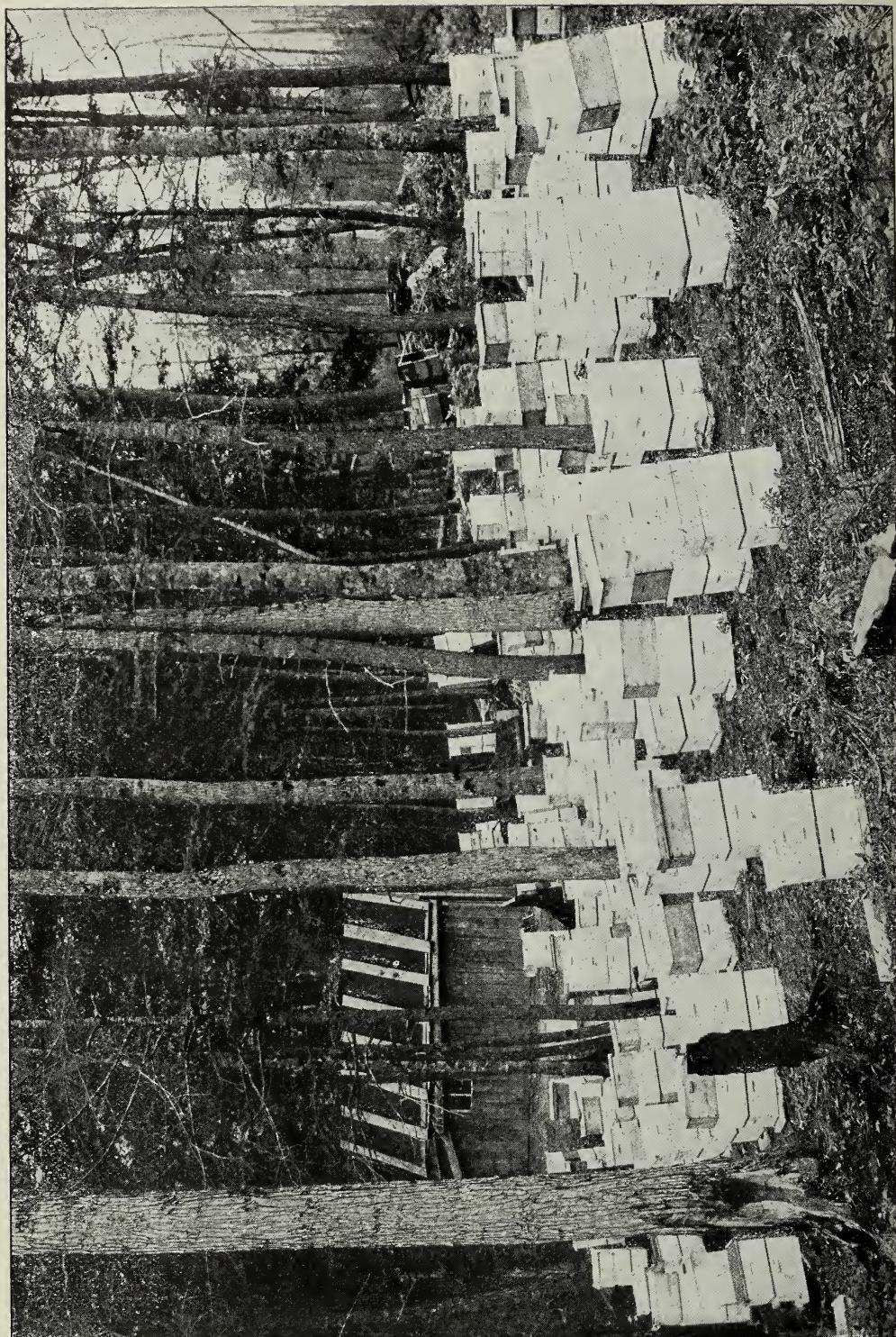
By the way, the first two years that we were trying to build up a mail-order trade in honey we offered to send samples free; but this is a great country when things are "free," and we probably gave away hundreds of samples to people who had no intention whatever of buying. Last year we asked ten cents for a sample, which just about covers the cost, but offered to allow the ten cents to apply on the first order. Each sample sent out was accompanied by a slip printed like this:

This slip is good for ten cents in payment for honey ordered of
W. Z. Hutchinson, Flint, Mich.

This, too, may seem like a small point; but the spirit of fairness and generosity thus betokened arouses in the prospective customer a feeling of friendship, or good will; makes him feel like saying, "That's the kind of man I like to patronize," and it may even be the turning-point that brings the order.

NEW CUSTOMERS MUST BE EDUCATED.

It must be remembered that the majority of the readers of the *Saturday Evening Post*, the public in general, know very little about bees or honey. Outside of the bee-keeping ranks, probably not more than one person in ten knows about extracted honey—how it is secured and how it differs from strained honey. To sell to this class to the best advantage, all this must be explained in such a way as to be readily understood. In short, the getting of an order from a man of this class, one who has sent for a sample, depends largely upon the kind of reading-matter that accompanies the sample. I wonder if GLEANINGS could make room for the subject-matter of the circular that we sent out—not as a model of superior excellence, but as a suggestion for something better along this line. If allowed to do so, we will give the circular first, and comment upon it afterward.



ONE OF THE APIARIES IN NORTHERN MICHIGAN.

THE RASPBERRY HONEY OF NORTHERN MICHIGAN.



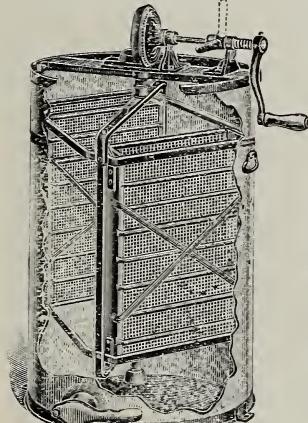
Northern Michigan, the home of the huckleberry and the speckled trout; where the wild deer drinks deep from little sparkling lakes with pebbly beaches; where forests of magnificent beech and maple stretch away for miles unbroken; where still lingers some of nature's wildness—here is a region fast becoming a veritable paradise for the bee-keeper. As the lumberman cuts away the grand old forests, the wild red raspberries spring up in myriads, the blossoms of which furnish bee pasture that is simply incomparable. The honey is thick and heavy, white in color, and has a delicious flavor all its own—a flavor that smacks of the wild raspberry of the woods.

A brother and myself have five apiaries in this region, he devoting his entire time to the business, and we are making a specialty of producing the finest table honey that it is possible to obtain. The honey is not taken off the hives until it is thoroughly ripened and all sealed over, thus securing a product that is thick, rich, and delicious—as far superior to ordinary honey as ripe fruit is more palatable than green.

EXTRACTED HONEY.

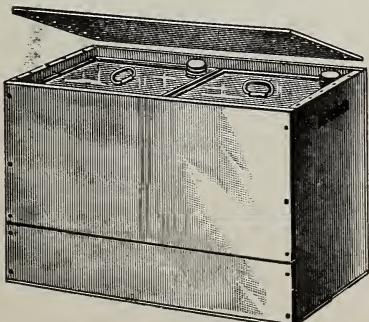
This honey is not sold in the comb, but in the liquid form—"extracted honey" it is called, because it is thrown out of the comb with a machine called a honey-extractor, herewith shown.

To those who are not bee-keepers I would explain that large frames filled with combs of honey are taken from the bee-hives, the cappings of wax all shaved off with a long sharp knife, then the uncapped combs are hung in wire-cloth baskets that are made to revolve quite rapidly inside of a large tin can. Centrifugal force throws the honey from the sides of



HONEY-EXTRACTOR.

the combs on the outside, next to the walls of the can, where it runs down to the bottom, and is drawn off through a faucet. When the combs have been emp-



HOW PACKED FOR SHIPMENT.

ties on one side the baskets are reversed, bringing the other sides out, when the motion is again applied, thus leaving the combs entirely empty, to be returned to the hives, where they are refilled by the bees. As the

bees have no combs to build, they can store more honey; hence it can be sold at a lower price. Extracted honey must not be confounded with the old-fashioned "strained" honey, in which the combs (bread and all) were mashed up, and hung in a muslin bag before the fire to drain or "strain." Extracted honey is simply the pure honey thrown out of the combs, as has been explained, and is free from impurities.

This honey is put up in five-gallon square tin cans containing 60 lbs., and boxed, either one or two in a case. The two-can cases are iron-bound at the ends, and we guarantee all shipments to reach their destination in perfect condition. We are often asked if we do not furnish smaller packages. Small packages are all right for a retail trade near home; but it would cost too much in proportion to their value to ship them long distances. Freight on 25 lbs. would be as much as on 200 lbs. If a customer does not care for as much as 60 lbs., an excellent plan is to get some acquaintance or friend to join in and take part of it.

W. Z. HUTCHINSON, Flint, Mich.

Reference, Citizens' Commercial and Savings Bank.

The foregoing circular was printed upon the finest cameo plate paper, of a sepia tint.

There was some little hesitation as to the advisability of using the portrait; but there is quite a little satisfaction in seeing what kind of looking person you are patronizing. It helps to remove that feeling of dealing with a stranger, and replaces it with confidence and a feeling of acquaintanceship.

APPEALING TO THE "FANCY."

A picture was given of one of the beautiful little lakes of Northern Michigan, of the magnificent forests of maple that are made to give place to the raspberries, also of one of the apiaries in the northern wilds. These illustrations and the accompanying reading-matter help to strengthen in the reader's mind the romantic picture that he has already formed of Northern Michigan and her honey resources. This, too, may seem like a small point; but we are all more or less influenced in our purchases by what might be termed "fanciful reasons." Honey from the wild red raspberries of Northern Michigan is quite different from just ordinary "honey." But, friends, it would be possible to take clover honey, or basswood, or any first-class honey, and by illustration and description hold it up to the purchaser in a very attractive light.

Then by word and picture the production of extracted honey was made clear, and the manner of packing it for shipment was treated in a similar manner.

As prices are likely to fluctuate, they were not given in the descriptive circular, but printed separately on a small slip, and enclosed with the circular.

There is one more point that it might have been well to mention in the circular; but we wished to avoid confusing customers at first with too many details, and that is the candyng of honey; but here is what we did: Attached to each package is the following sticker:

In short, every effort was made to please customers—not only from a desire to please, but that these customers might return year after year.

We had about 20,000 pounds of honey, and at least half of it was sold as the result of this one advertisement, and the proper handling of the replies that came in response.

TAKE NOTICE! This honey will candy, or become white and hard, as soon as it becomes cool, or cool weather begins, and this candying is, in fact, the best proof of its purity. To restore it to the liquid form, set it in hot water (not hotter than you can bear your hand in). To overheat or boil the honey spoils the flavor. When melted, remove and cork or cover again. If sealed up while quite hot with a cork dipped in melted wax (or with the inside of the cover waxed), it will usually not candy again. When putting the bottles in hot water, place them on strips of wood to prevent breaking.

The rest of the honey was sold mostly to old customers, who used it largely on their own tables; in short, it might be said that we sold most of our honey at wholesale to actual consumers. In other words, we took such a course as to find customers who were able and willing to buy honey in large quantities for their own use; in fact, it was noticeable that the orders came largely from bank cashiers, superintendents of factories, and other men occupying positions that enabled them to buy honey in large quantities if they so desired.

SMALLER PACKAGES NEEDED.

If a scheme does not turn out so well as expected, it may be worth while to find out why. The knowledge thus gained may be worth all that it costs to try the scheme; so we took pains to find out why men sent for samples of honey and then did not send in an order. It was as we expected. There were various reasons given, but none worth mentioning, except that of the size of the package. Six-

ty pounds is too large a package for the trade to which we were catering; or, rather, there ought to be smaller packages. It is all right to have two sixty-pound cans in a case; also one in a case; but there ought to be varying sizes of smaller packages with prices according to the size—the smaller the package, the higher, relatively, the price.

MORE PROFIT IN A MAIL-ORDER TRADE THAN IN SELLING TO JOBBERS.

Quite a number have written, and several at the Detroit convention said, "Hutchinson may get ten cents for his honey, but when he comes to figure up his cost of advertising I doubt if his honey will net him more than if he had sold to a jobber at seven cents." All of the cost of advertising, including periodical, circular, postage, etc., was less than \$200. A difference of three cents a pound on 20,000 pounds amounts to \$600. In other



HARD-MAPLE FORESTS OF NORTHERN MICHIGAN.



NO. 1.—A GLIMPSE OF OUR FORMER ISLAND HOME IN SOUTHWEST FLORIDA.

Besides the explanation given by my good friend Brewer, I want to say that Mr. Shumard's cottage is a little to the right, back under the trees. The picture gives you an excellent glimpse of the palmettos in the foreground, then a big live oak that almost covers the house, and on the left one of the beautiful cedars that render the island especially attractive. The cedars are the same that our common leadpencils are made from, and they are a beautiful tree. Just back of the house is a large hollow rubber-tree that does not show at all in the picture. This rubber-tree is so large that it sometimes contains two or three hens' nests, and quite a brood of chickens have come out of it. Still further back, at the left of the picture, is the little cottage that I built. It is so much covered with tropical foliage that one can hardly get a glimpse of it; but back through the trees there is a little white spot that shows the blue waters of the great Gulf of Mexico. No wonder they are a happy family, for, like Robinson Crusoe, friend Shumard can almost say,—A. I. R.

I am monarch of all I survey; my right there is none to dispute;
From center clear round to the sea I am lord of the fowl and the brute.

words, the honey netted us nine cents a pound. There is one more point in this connection that is worthy of consideration; and that is, that our selling our honey at ten cents helped, at least in a small degree, to hold up the price. When some man objected to the price that was asked, it was not without its effect to say, "Why, Hutchinson is selling his honey right along at ten cents!"

A NEW FIELD READY FOR THE HARVEST.

We are satisfied that we have broken into a field that, with careful cultivation, will yield bountiful profits—a mail-order trade in honey direct to consumers. If our little advertisement of half a dozen lines, inserted once in a single publication, led to the sale of more than 10,000 pounds of honey at ten cents, when put up in sixty-pound packages, what couldn't be done with extensive advertising and honey put up in packages suitable for this trade? The field is white for the harvest.

Flint, Mich., March 22, 1909.

THE BEST WAY TO ADVERTISE HONEY.

BY F. J. ROOT.

Editor Gleanings:—Is there any profit in raising honey? I assume there is or it would not be followed. And if there is profit on one pound, is there not more profit on two pounds, providing that two pounds can be sold where one has been heretofore? Is it not worth while for the army of bee-keepers to use some better method than they have done to increase the consumption? Even if the increase be only 25 per cent it will be quite an object. I sincerely believe that, by the use of a well-directed plan of campaign, the per-capita consumption could be increased 50 per cent in a few years. Why! honey is practically unknown in the home of city dwellers. They do not fail to have a jar of jam, but they do *not* know the merits of honey.

There have been a number of plans made



NO. 2.—FRIEND SHUMARD AND HIS DAUGHTER FLORENCE IN THEIR APIARY ON THE MAIN LAND NEAR OSPREY.

By the way, how can one find a happier combination in caring for bees, poultry, or any thing else, than father and daughter? When I was on the island Mr. Shumard and I both tried the grafting business, but made bungling work of it; but after he explained to Florence what was wanted (she was only 17) she fixed a lot of queen-cells so that the bees accepted the larvæ and filled out every one of them. She has lately been teaching school, and quite successfully, I am told; but when she found that her father had never been able to get queens enough (to supply The A. I. Root Co.) in April, May, and June she promised this year to turn in and help.—A. I. R.

whereby the public might become better acquainted with this delicious product; but I know of no plan that has got further than the suggestion. In this connection I should like to name one method that has not been taken up by the fraternity; and an experience of 25 years in an advertising office confirms my faith in it—the use of all trade papers. My plan would be to have a fund raised that would suffice to keep a quarter-page advertisement in the grocery and food-trade papers the year round. In this space I would "strike from the shoulder" in telling the retail grocer *why* he should make special effort to sell more honey. An intelligent retailer can exert a good deal of influence with a large number of heads of families, and he *will* exert this influence if it is to his financial interest to do so. This advertising matter should be written by somebody who knows how to talk to *retailers*. It is a different proposition from reaching *consumers*. There are, say, 125,000 retailers in the country who are worth going after, and a good part of them—in fact, practically all of them—can be reached by trade papers.

A fund of \$6000, may be less, will pay for a good space for a year. In itself this is quite an amount; but would it be burdensome to bee-keepers per capita? I believe they would ere long see an increase in the consumption

of honey that would fully justify the outlay, and they will not willingly give up the plan.

I wish the readers of GLEANINGS and other bee-papers would give this proposition their consideration and send in their opinions. I may be wrong, but other staples owe their success very largely to the grocery and kindred papers, and there is even a better chance for honey. Millers are advocating an advertising campaign for flour. They are seeing their trade diminishing through the use of "patent" Battle Creek breakfast foods, and feel that before long they will have to defend a product that has stood the test of generations. And to what is the popularity of "patent" foods due? almost altogether to printers' ink.

Summing up, for six thousand dollars a year, 125,000 reliable retailers can be reached every week! Figure it out. You have a big lot of *desirable publicity* for very little money per bee-keeper, and his contribution is not asked "all in a gob." He spreads it over 12 months. Is it worth thinking about?

New York, N. Y.

[These suggestions are worthy of the careful consideration of honey-producers. Mr. Root has for many years been engaged in the advertising field in connection with various trade papers in New York, especially the

American Grocer, and his experience would naturally lead him to pretty correct conclusions.

It will be noticed that he has in mind a plan not unlike the one proposed by the Honey-producers' League several years ago. It is also similar in idea to that of the Pineapple-growers' Association of Hawaii, and the various fruit associations of California.—ED.]

SOME GLIMPSES FROM A. I. ROOT'S FORMER "ISLAND HOME" IN SOUTHWEST FLORIDA.

BY M. L. BREWER.

When old Boreas begins to get in his work in earnest, then it is that our thoughts turn to a vacation trip—one that will get us below the frost-line, where nature has been lavish in her handiwork, and old father Time has lent a hand to add to the beauties. If you have never enjoyed a trip of this kind you should begin planning now for the coming winter, and, to our mind, there is no better place than the southwest coast of Florida, below the Manatee River along "sunny Sarasota Bay," with her almost endless number of keys, where nature has seemingly literally tried to cram them with all that will thrive in a semi-tropical climate. In such surroundings we find many winter homes of northern people, as well as those who make their permanent home there.

Among the many hospitable homes that we might mention, the one that we will give space to to-day is "Island Home," where genuine old hospitality, friendship, and Christian fellowship are what greet the wayfarer who is fortunate enough to make it his stopping-place. One mile across the bay from the main land it is to be found, and is the home of the Shumard family, where they are seemingly on a little continent of their own, as they are the only ones on that key for miles. Mr. Shumard is one of the progressive bee-keepers, and has worked at it with such success and enthusiasm that the whole family have caught the fever, and this spring his sons, Jesse and Orville, as well as the son-in-law, Mr. McAuley, have each located an out-apiary, so that they

have the mainland shore territory now occupied for several miles along the bay front with their stocks. Mr. Shumard not only keeps bees, but he also tries with all his powers to keep the lamp of Christianity burning in his immediate community, and now is at the head of a very prosperous Sunday-school where, he lately tells me, the people are showing their interest by contributing well for supplies and an organ, that they may have all the best that can be had out of it; and may the Lord's blessing be with them in the work.

March 12, as we were sitting on the upper veranda at our rooms in Sarasota, on looking out the familiar form of Jesse Shumard was seen coming our way, and delivered the message that the folks sent to us, to "come home" with him. Even if it was a short notice for us, we were soon in his gasoline-launch speeding down the beautiful bay, and enjoying every inch of the ride in the balmy evening air. The gloomy shades of night found us on the way, but we made port safely with our pilot at the wheel, and were soon enjoying all the hospitality that could be lavished upon us; and, by the way, that was a meeting of some former friends we had not met before in *thirty-seven years*, so there was plenty to rehearse.

After a good night's rest, all were astir early, for work with the bees at that season of the year, and in that clime, is pressing. The work planned was grafting queen-cells;



NO. 3.—HONEY-HOUSE BUILT OVER THE WATER.



NO. 4.—THE FISH THAT BRO. SHUMARD CAUGHT IN 1½ HOURS.

This represents a string of fish that Mr. Shumard caught while sitting on the wharf, or, you might almost say, in the dooryard of the island home.

and while we are unable to give you real glimpses of the actual work of grafting, we are fortunate in that we can give some of the glimpses of other parts of the work. The out-apriary is more than a mile inland across the bay, so picture No. 1 will give you a good shore view, as preparation was being made for the day's start—not all for the apriary, but to their different ways for the time. Mr. Shumard will be noticed with the wheelbarrow loaded with empty hives for the lighter, to be taken across to the outyard for use in swarming-time. Mr. McAuly is in the lighter with baby Ruth, and, by the way, she is the only baby on the key, and the only one born on the key, so far as known. Clara and Flossie are in their row-boat ready for school, as they have to run across to the main land for such privileges, and are both experts with oars as well as at swimming. The others are Mrs. Shumard, Mrs. Smith, Mrs.

in bed. We have no record of this event, but will pass on to where the writer, Mr. Shumard, and Miss Florence spent the forenoon with the bees. First some royal jelly was taken from the home yard, which can be seen in the shore view.

The outyard is located in an ideal spot a mile or more from any habitation, on the banks of the creek, and just where it makes a short bend, forming a little cape, as it were, with steep banks—in fact, where the landing is made with the boat the bank is almost perpendicular, and there is a pulley-hoist to lift the hives to the shore, and lower the honey to the boat to be taken home. At the opposite side there is a hammock, or marshy strip, so it is well protected from roaming stock. I was sorry that this part of the creek could not show in the picture, but it seemed impossible. Picture No. 2 is Mr. Shumard and daughter Florence, who does his graft-

Brewer, and Mrs. McAuly, who are just going over to the store in the larger row-boat. And, by the way, it is not best to just tell all the very pleasant things of life and leave the rest all out, so we shall have to record the mishaps as well.

As the ladies returned from the store, and were making a landing at the wharf, Mrs. Smith, not being used to boats and wharfs, and their habit of sometimes parting, allowed that to happen while she attempted to fill the space between, in something like four feet of water, but with no worse results than a bad scare and a thorough soaking, and was all right after a rest of a few hours

ing for him, as her hands and nerves are better adapted to such work than others that are unsteady by years of toil. I wish readers of GLEANINGS could all see this little apairy, located in the pine woods, where the saw palmetto is the source of supply, and where Mr. S. harvested over 6000 lbs. last year. Just back of them will be observed the little palmetto shack where the work is all done, away from the prowling bees, and where Miss Florence transferred 165 larvæ to queen-cell cups—a process of which Huber was the inventor, as I understand it. We had a good forenoon's work; and while Miss Florence was grafting, Mr. S. and the writer were removing surplus honey and shaking some bees to take home to form nuclei as well as getting proper larvæ for her work.

By the way, I think that Mr. S. is the best located for pure mating of queens of any one that I have ever met with, as his own bees are all that are on the key, and he can select his drones to suit himself; and before queen-cells are hatched they are all at the home or queen yard, so there is a very small chance for mismatching.

At the home, Mr. S. has built a two-story honey-house at the end of the wharf, so that he can run alongside the house and draw the honey, by pulley, to the upper story for storage, as well as to have it handy to lower the boat to go to market, and he and the sons hope to fill it soon to the capacity with their own stocks. The lower room is for general storage. Can any one else report a honey-storage over the water?

Picture No. 3 gives a view of the wharf and honey-house. It was ours to sample a gallon of that palmetto honey from this apairy while we were in the South, by the courtesy of Bro. S., and it was excellent.

While I am aware that GLEANINGS devotes most of its space to bees, yet it has other home interests; and while at "Island Home," although bees are the principal thought, at spare times the sons fish for the markets. In the afternoon, after we had returned from the outyard we sat on the wharf at the honey-house about an hour and a half; and picture No. 4 will show what the writer did with rod and reel; so you see that fish also are handy and plentiful.

Sunday dawned bright and clear, and after noon we all took to the launch and went to the Sunday-school. Monday Jesse piloted us to our quarters after one of the pleasant side trips of the season.

Philo, Illinois.

Well, friends, I do not know what you think about it, but I am a good deal interested in that Sunday-school where they have just clubbed together and bought an organ; and as the same mail that brought the photos and letters also brought a letter from our good friend Shumard, I will give his letter right here.—A. I. R.

Friend Root:—Our bees have not done as well as last year, although we have, to date, taken 3000 lbs., and think there is another thousand in sight. We shall all be glad to welcome you and Mrs. Root back to our

island home next winter, and hope nothing will prevent your coming. I am sorry I have had such poor success in raising queens; but bees on the island did very poorly this spring—too much cold west wind sweeping over the gulf. I think they crossed the bay ahead of the wind and could not get back. I have thought of trying turkeys on the key, but could not get to it this spring.

Our little Sunday-school at our schoolhouse, organized two months ago, has an attendance of 40 to 60. The young people are taking good interest—bought a \$50.00 chapel organ, and have \$8.00 in the treasury for supplies.

I. T. SHUMARD.

Osprey, Fla., May 31.

CARPENTRY FOR BEE-KEEPERS.

Selecting a Hive, with a Digression on Comb and Extracted Honey Production; No Economy in Home-made Hives.

BY F. DUNDAS TODD.

Let it be distinctly understood at the very beginning that I am not advising anybody to make his own hives. I made 25 last summer because I had to, and I think I made a fairly good job; but after the experience I am not enthusiastically in favor of repeating. I kept close track of the cost of every detail, and I feel I can not start this article better than by setting forth at length what I paid for the material. My own labor is not charged in the bill at all. As it will be interesting to compare the cost with first-class goods of factory make I append an estimate compiled from a catalog of one of the leading houses; and since I made up quite a number it is only fair to quote the catalog quantity prices.

	Catalog price for two-story divisible hive in the flat.
Bottom-board.....	.20
2 bodies.....	.26
16 frames.....	.32
2 followers.....	.05
1 super cover.....	.15
1 cover.....	.18
Total.....	\$1.16
	Total.....
	\$1.52

The lumber was procured at the mill, and assurance was given that it was well dried; but, although it was bought at a season when every thing was as dry as a bone, I found that it shrunk decidedly in use so that there was a decided gap between the two parts of the hive in many cases; in fact, I suspect some of the bodies may have to be discarded, while others will provide a job at planing. So the wastage, when taken into consideration, will add to the cost of the bodies fit to use.

Later on in the season I had a dozen divisions cut out by a cabinet-maker from kiln-dried spruce as an experiment, so that I might learn how this kind of lumber would stand our rainy winter season. These cost me 35 cts. each; and if I substitute them in my first estimate the total cost of the hive will be \$1.60. Now as a matter of fact a single division from the factory costs me in Victoria just 35 cts., this including, of course, freight and customs duty. There is simply no comparison possible between the quality of the goods.

The frames were of the simplest possible design, being made of lumber $\frac{7}{8} \times \frac{3}{8}$ throughout; yet even when the lumber was bought in 16-foot strips, 1000 lineal feet at a time, they cost the same as finely made factory goods. Freight and duty added, factory frames cost in Victoria a trifle under 3 cts.

Were I to add the value of my own labor in making the hive parts (and for a fair comparison this should be done) I would have no hesitation in saying that it emphatically does not pay, either from a monetary or bee-keeping standpoint, to make one's hives excepting in a case of necessity, such as was mine in June, 1908. I will go further, and say that cutting out lumber for a hive is not a job that the average planing-mill is fitted to tackle. My experience emphatically suggests it is rather within the domain of a cabinetmaker. So far as I can see, the average employee in a planing-mill is not a skilled workman. He is only an ordinary laborer, and does not feel the necessity of accuracy, which is part of the training of such a craftsman as a cabinetmaker.

After this brief statement of cold facts I will proceed to tell how I set about making a lot of hives so that anybody wishing to experiment along that line may do so with the least possible trouble.

Let it be understood I am located on the very outposts of civilization, that not one hive in my purchase was of standard Langstroth size, and that, therefore, I had to work out dimensions of every kind for myself. In addition I had various factors in my own case I wanted to consider, and felt it would be wise to modify the hive construction accordingly. I will state some of these factors, as they may be of interest to others.

COMB OR EXTRACTED HONEY — WHICH? THE POLITICAL ECONOMY OF THE QUESTION.

In the first place, the ratio between the price of extracted and comb honey in this city convinced me the former was more profitable to produce. I am not going to enlarge at length on this perennial problem of the bee-keeper as to which form of honey production will pay him better, because, from my point of view, the question was practically settled in a general way long ago. The one pays just as well as the other. For years I have been interested in political economy, and have learned that the value of an article is determined by the amount of average labor necessary for its production. Generally speaking, the value and selling price agree. Occasionally the operation of the law of supply and demand will cause a divergence in one direction in one place, but there will be a compensating divergence somewhere else to equalize the first. So, broadly speaking, so far as the question of remuneration is concerned the average bee-keeper need not lose sleep worrying as to which form of honey production will be the more profitable for him. In a series of years the one will be as good as the other. If he be far from markets he must consider the risks of transportation, which, of course, is more hazardous in the

case of comb honey. But outside of such considerations the average bee-keeper may rest assured that, no matter what the form of production, all he will get for his labor, one year with another, will be just what is sufficient to maintain him at the standard of living enjoyed by the class of the community to which he belongs—that of a fairly skilled workman.

In discussions on this subject in the bee-journals, great stress is always laid on the necessary amount of bee labor; but political economy does not recognize such. It concerns itself with human labor only. Bee-keepers interested in this problem might with advantage study the quotation of market prices in the journals, and figure out for themselves the ratio between comb and extracted honey. It will be found to be constant within certain limits. On account of market conditions here (largely geographical, to a smaller extent local), the proportion of prices appears to me to be in favor of the production of extracted honey, and therefore I am preparing for that form.

Ere I leave the subject of remuneration, let me point out that the principles stated show why there is no fortune to be made in bee-keeping. It is practically a one-man business, so that it is almost impossible to exploit human labor by the wages system. A bee-keeper is not a capitalist. He is a man who has paid out a certain sum of money to buy himself a steady job. As a matter of fact, he is exploited, as the difference between the wholesale and retail price of his commodity readily shows.

Next, I have a decided aversion to lifting heavy weights, for physical reasons. I had the choice of two systems of working—either use a large hive, *a la Dadant*, and never lift, or adopt the divisible hive with the lighter weight to handle—not to exceed 40 lbs. at the most. I chose the divisible hive, because, if experience ultimately decided against it, the divisions would always be available as supers.

Simplicity appeals very strongly to me, and the thought of a perfectly interchangeable system of hive-bodies was too alluring to be resisted—no need to worry about having on hand a proper proportion of bodies and supers; any division can be used for either according to the needs of the moment. My antipathy to heavy weights would compel a shallow super in any case, and so would the conditions set forth in the next paragraph.

The climatic conditions of the Pacific coast, at least that part with which I am familiar, extending from the Northern California line to British Columbia, are peculiar in this, that there is always a decided drop in the temperature after sundown. For instance, in Medford in the summer a drop of 30 degrees occurs between 8 P.M. and 11 P.M., while in Victoria it is about 25 degrees. During the honey-flow the night temperature in Southern Oregon will be ordinarily from 60 to 70 degrees, while in Victoria it is from 50 to 54 degrees. Bee-keepers do not need to be told that right here is a very interesting problem

in hive construction and handling, nor will they wonder when I assure them that I have given long hours of thought to it, and that I do not feel that I have in any wise arrived at a solution. Of one thing I am convinced—it will be wisdom, with such conditions, to use a shallow super in preference to a deep one, as it will be so much easier for the bees to make and keep it warm.

The hive of my choice, then, is the divisible hive built up by divisions called "dovetailed supers for extracted honey." It is $5\frac{1}{4}$ inches deep, with Hoffman extracting-frames of $5\frac{1}{2}$ inches depth. I have adopted the eight-frame size.

As I have already said, the problem of night temperature is always with me, so the cover-board I adopted was dictated principally by this consideration, the idea being to retain the heat. At present I am using an oil-cloth quilt, and above that a super cover on which is nailed a strip of $\frac{3}{8}$ -inch wood all round the edge. The cover proper rests on this strip, the idea being to have an air-space between the two covers and so prevent radiation. Last of all, the cap form of cover was chosen, the side pieces being $1\frac{1}{2}$ inches deep, so that there would be kept out the strong winds that are common here, especially in the winter and spring months, and also water from the rains during the same seasons. Frankly, I am not at all satisfied that I have done the best possible with the cover problem in this climate, and am almost of the opinion that it would pay to have a cap that will protect the junction of the two divisions. I shall probably experiment in 1909 along that line, using side pieces about 8 inches deep.

In the matter of bottom-boards I followed Dr. Miller, and so use a $1\frac{1}{4}$ -inch rim on three sides. The entrance is closed by an entrance-block on which two sizes of apertures are cut. For feeding I use a tin tray that fits snugly in the board, as recommended by Mr. Hand in his interesting series of articles. Feeding by this system is very expeditious, and I certainly prefer it to giving the syrup from above.

To be continued.

EXTRACTED-HONEY PRODUCTION.

How to Take Care of the Honey as it Runs from the Extractor; How to Prevent it from Running over on the Floor.

BY E. D. TOWNSEND.

Carl H. Hanson, p. 1439, Dec. 1, 1908, tells of his method of handling honey from the extractor. This article reminded me of our honey-house in Charlevoix Co. A frame dwellinghouse 18×26 feet was bought. The partitions were removed and the ceiling raised until the room was about 9 feet high. The windows were removed on both sides, and 6-ft. shop windows substituted and covered with wire screen on the outside. Board shutters for each window were made to fit on the inside to keep out the storm. The

whole interior of the building was covered with tarred paper to prevent robber bees from getting in.

At one end of the building toward the bee-yard, a 3-ft. door was placed a little to one side of the middle of the end-wall. At one side of the door at the front of the building a space of flooring 4×7 ft. was removed, and the soil dug out to the desired depth. We used this pit for handling the honey in a manner similar to that described by Mr. Hanson, only our honey ran from the extractor into a strainer-tank with a gate near the bottom. From this gate it ran into 60-pound cans, which cans, one by one, were set on a Coveyou automatic scale that weighed the honey, shut off the gate when the can was full, and rang an electric bell until some one removed the full can and put an empty one in its place.

I bought a yard of bees 25 years ago, which was fitted up for extracted-honey production. Before this I had always run for comb honey; and when I bought this yard I worked the colonies in the same way that they had been worked before for extracted honey by another party. During extracting, the honey was run from the extractor into tin sap-buckets and allowed to stand over night. In the morning it was skimmed with a large spoon, and then emptied into a 600-pound tank which had a gate near the bottom. There were two of these tanks. The following morning the honey in the tank was skimmed and drawn out into 60-pound cans. The buckets were used one season, but at the end of this time we concluded that the honey had been handled more than necessary. For a good many years after that we emptied the honey from the pails directly into the large tank and allowed it to stand over night, then skimmed it and ran it into cans. This saved one handling, and we found the honey was equal in every respect to that which had been handled twice by means of the sap-buckets.

Since that time our honey has been handled as previously explained, but put into the cans as fast as extracted. This does away with a good deal of the labor. I agree with Mr. Hanson that pails for handling the honey from the extractor are not very satisfactory; but I presume that four-fifths of the extracted honey is still handled in that way.

The editor says that the trouble with running the honey direct into a pail from the extractor is that one is likely to forget and let it run over and waste. There is not a bit of danger here, Mr. Editor, as I have told in GLEANINGS before. Allow the extractor to fill with honey until the revolving baskets begin to swim in the honey. Then set the pail under the gate, lift the handle of the gate and hold it up until the pail is full. With the large gates now put on extractors, and with warm honey, a pail will fill in about one-fourth of a minute. Now empty the pail into the tank, leaving it turned upside down to drain until the extractor needs emptying again. We have been all through the troubles which follow when the extractor is run

with the gate open all the time. It is a poor and expensive way simply to close the gate when a full pail is exchanged for an empty one. The other way is much better.

Remus, Mich.

[Keeping the extractor gate closed a part of the time, and opening the same when it is desired to draw off the honey, solves the difficulty of honey running over and wasting, providing there is a little extra capacity below the extractor reel.—ED.]

EUROPEAN AND AMERICAN BASS-WOODS.

Different Time of Blooming, etc.

BY W. J. GREEN,
of the Ohio Experiment Station.

Mr. A. I. Root:—I have never seen mention, in any publication, of the fact that the European and American basswoods bloom at different times during the season. This, it seems to me, is an important matter for bee-keepers to consider. The American basswood blooms earlier than the European by at least ten days. About the time the American basswood begins to go out of bloom, or a little later, the European commences, thus extending the season. It seems to me that the European is more prolific in bloom than the American, and I think that the tree begins to bloom at an earlier age. The European basswood begins to bloom at from five to eight years of age, and, being of quite rapid growth, it soon makes a tree of considerable size. In appearance the European basswood is rather more symmetrical than the American, and is somewhat pendulous in habit. It is a handsome tree for a lawn, and makes a good tree for a windbreak. It is more plentiful in the nurseries than the American, but the two are usually sold at about the same price. Small trees can be bought quite reasonably at any of the large nurseries. The basswood to which I refer is usually called the small-leaved European linden. There are several varieties of linden aside from the European and American, but I have not had an opportunity to note the time of blooming of each.

It would be quite possible to select a very early-blooming American basswood and a very late European, thus extending the season still more. If bee-keepers would give a little attention to this matter they might be able to lengthen out the season several days; but it would be necessary, when trees of an earlier-blooming and later-blooming habit were found, to propagate by budding or grafting, which is not a difficult process in the case of the linden.

If anybody knows of very early or very late blooming of trees of these species the Experiment Station would be glad to hear from them. The European linden is in full bloom now at the Station, and the bees are working vigorously on the blossoms.

Wooster, Ohio, July 5.

[Many thanks for the above, friend G.

We have called attention to the fact before, and we have a few European lindens on our own grounds. The handsomest basswood-tree, however, that I ever came across is one we purchased of the Storrs & Harrison Nursery Co., and is called the "silver-leaf" basswood. It has a much darker foliage, and the under side of every leaf is of a bright silver color. It promises to have a much larger bloom than our American basswoods, and, like the European, it is quite a little later. While our common basswoods are now in bloom, July 6, the silver-leaf does not look as if it were nearly ready to bloom. I think some of our readers can probably furnish you information in regard to late-blooming basswoods; but these will probably be found in dense shaded pieces of woodland. I have tried growing basswood from cuttings; and although they start nicely without any trouble, I have never been able to get a continuous growth from them.
—A. I. R.]

SHAKING ENERGY INTO BEES NOT ACCORDING TO NATURE.

BY WESLEY FOSTER.

We know it is necessary to the best management of bees to know the condition of each hive; and the more we can find out without opening the hive, the better for the bees, and time is saved for us. Nature did not intend that the brood-nest of the hive should be molested, and the nearer we can come to this the better.

No one can tell how many good queens are superseded because of the disturbance to the cluster. Many a hive supersedes a queen that, to all appearances, is a prolific one. May not this be caused by the frequent opening of the hive? This is one of the objections to the "shaking-energy" scheme, that many good queens will be superseded and some killed outright.

The bee-keeper who keeps an eternal vigilance over the inside conditions of every hive will always have plenty to do, and the number of colonies he can care for will be small. He finds the queenless colony soon after it becomes so, caused, no doubt, by his last manipulation, and he soon has another good queen introduced; but he has spent a lot of time and wasted a lot of the bees' time that could have been put to good advantage.

This going through the brood-nest every few days brings about conditions that make it necessary, while the most successful bee-men care for larger numbers and work more from general and outside conditions, letting the bees take their own course and shouldering the small loss which is made up by the profits from the greater number of bees handled.

Thank you, Mr. Steengrafe, for putting me right on honey importations, p. 284, May 1. The impression given by *Thomas' Weekly Review* is misleading, as nothing is said about any of the honey being in transit to Europe.

Boulder, Col.

HEADS OF GRAIN FROM DIFFERENT FIELDS

NO BROOD IN COMBS UNTIL POLLEN WAS SUPPLIED.

Mr. Root.—Noticing your quotation from a letter from H. G. Quirin, in the May 1st number of GLEANINGS, in respect to bees lacking pollen, I'd like to give my experience two years ago at Lake Geneva, Wis. Some time the last of March or early April (I do not remember the date) I went up to examine my little apiary—Some 30 or more colonies. I found them all strong in bees, and having plenty of honey; but not a cell of pollen in the apiary, nor a cell of brood, capped or uncapped, nor an egg, could I find. I was greatly puzzled, for it was the first experience of the kind I had ever had, and I wrote immediately to Dr. Miller, asking him what he thought I'd better do. He replied that as the season was so far advanced the bees would be likely to obtain natural pollen soon and would come out all right.

I happened to have several little jars of malted milk (a dry powder as fine as flour); and as I like to experiment I dusted this over the top-bars of every hive, and within two weeks the middle frames of every hive were well filled with brood in all stages of development, from the egg to capped brood. Now, whether the malted milk was used as pollen, or whether natural pollen was obtained in sufficient quantities, I'm not able to say. I wonder if any one else ever tried this substitute for pollen.

Query—why this condition of the bees in this apiary? There was the usual quantity of pollen in the fall when they went into winter quarters. On thinking the matter over I concluded that, as they were so strong in bees, they had bred up early in February and along into March, thus using up their stores of pollen before the season opened in the spring. This would account for the strength of the colonies. WM. M. WHITNEY.

Evanston, Ill., May 5.

[Malted milk given direct to the colony as here suggested has been before given in these columns. While it will induce brood-rearing, a cheaper bean meal would probably do just as well. Possibly ordinary rye meal would answer. If any one else has tried giving nitrogenous food direct to a colony, especially the cheaper pollen substitutes, we should be pleased to have him report.—ED.]

TWO SWARMS COMING OUT AND UNITING; SHUTTING UP A REFRACtORY SWARM THAT KEEPS COMING OUT.

I had a queer thing happen the other day in the way of bees swarming. One swarm came out and clustered on a fence; another swarm came from No. 1, and clustered on a fence-post. I don't know where the first swarm came from (I mean which hive); but the last time I saw them coming out I placed hives convenient for each swarm, and they both partly went in. The first swarm then absconded and went into the air; then immediately the second one did the same. They united, and all went back into No. 1. Of course one of those swarms was foreign to that hive (both being prime swarms). Is that an unusual occurrence? If so, what was the cause? I immediately gave them another body of frames, full size, hoping to hold them; but in two days, out they came again. I hived them all right this time, but in three days they came out again (this time from the new hive), but went back without clustering, and are working all right, apparently, now. They may be without a queen. I understand all that; but why they should unite and go into a hive strange to one of them after they had clustered separately I don't understand.

JAMES E. FOWLER.

Newfields, N. H., May 31.

[During the swarming time one should be prepared to expect almost anything. If two swarms are in the air at the same time they are quite apt to unite and go together in one cluster or in one hive, especially if the queen of one of the swarms is missing. It is not at all strange, therefore, that the "foreign" swarm united with one of your own swarms.

From the circumstances here related we should infer that the queen in your own swarm did not, for some reason, go forth with the bees, possibly because her wings were clipped. Such a swarm would, quite likely, after clustering, go back to its old hive. The other swarm with the queen, or without one, would very naturally unite with a swarm that was going into any particular hive, whether it was their own or that of some other. In the meantime, the two lots of bees get

the swarming mania, and no matter how much you hived them, they would be likely to come out again until they get over their craze. When a swarm acts like this we would not fuss with it a second time. We would hive the bees, and immediately carry them down in a cool dark cellar and keep them there for two or three days until they "cooled off." In the mean time they would start drawing out the comb; and if the queen began laying they would be almost sure to stay contentedly after you put them outside. Sometimes it helps a little to give a swarm that persists in coming out a frame of unsealed brood; but when they get the swarming mania the only thing we know to do is to shut them up down cellar until they get over their frolic. A swarm that keeps coming out is a good deal like an old sitting hen—the more you bark her the more she seems determined to carry out her natural instincts. Therefore we treat the swarm just as we would treat the hen; viz., shut it up.—ED.]

A NEW WAY OF FASTENING FULL SHEETS OF FOUNDATION IN BROOD-FRAMES, AND AT THE SAME TIME PROVIDE WINTER PASSAGES.

My method of fastening full sheets of foundation in brood-frames also provides permanent openings through the top-bars of the frames, allowing free communication to all parts of the hive. No wedge or extra saw-cut is needed for holding the foundation, and there is no need of a bee-space over the top-bar when my plan is followed.

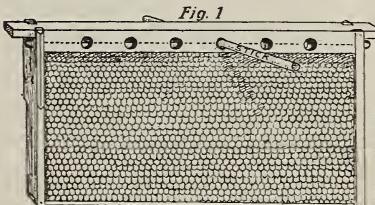


Fig. 1

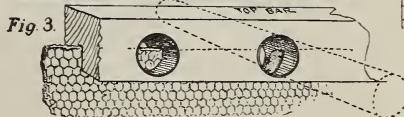


Fig. 3

I bore six $\frac{3}{8}$ -inch holes through the top-bars, as shown in the illustration. These holes should be a little nearer the lower edge of the top-bar than the upper edge. There should be a saw-cut in the lower edge of the top-bar deep enough to extend half way through the holes, as shown. Then when the foundation is slipped into this saw-kerf it may be quickly fastened by punching a round piece of wood or metal into all of the holes, giving it a twisting motion to fold over the edge of that part of the foundation extending into the hole.

JOSEPH G. HUTT.

Peoria, Ill.

BEE-KEEPING IN MAINE.

I noticed the request for information in regard to Maine bee-keeping, p. 264, May 1. In reply I will say that box hives are common in this part of the State. If the owners are busy they pay no attention to the bees, although an empty box is often inverted over holes bored in the top of the brood-box, so that a little surplus honey is secured. The usual way of getting the honey, however, is by sulphuring the colony.

One farmer, who knows nothing about bees, bought a colony two years ago. When a swarm was cast he put his box hive down by the cluster and left it there. The bees flew away of course. After that a friend made him a brood-chamber and a super and cover after modern patterns; and the next time a swarm issued he hived the bees like a veteran, and set the super on the ground, bottom-board on top of it and the brood-chamber above that. Then he cut a hole through the tin cover to "let in air."

I have 17 colonies of hybrid bees on closed-end frames of Langstroth dimensions. The hive-walls are made of two half-inch boards with half an inch of packing between. I think a warm hive is necessary in this climate. The colonies are put in the cellar about the middle of November, although strong colonies sometimes go through the winter out of doors.

Holton, Me.

H. L. MERRITT.

SHOOK SWARMING EITHER FOR COMB OR EXTRACTED HONEY.

If I understand your p'sans for the prevention of swarming, as given in lesson 8 of your Correspondence Course, I am to begin examining my *out-apriary* at regular intervals as soon as the swarming season begins; and when I find a colony with eggs or larvæ in queen-cells I am to divide or brush the swarm, otherwise I am to leave the colony alone until the next visit. How often would you visit an outyard? If a colony with two section-supers on is found making preparations to swarm wou'd you divide the colony, as taught in lesson 8, and cage the queen in the section-supers for eight days on the old stand?

If, in place of the sections, I were using a full-depth b'dy, and I intended to run the colony for extracted honey, could I set the brood-nest back on top of the body on the old stand now, in 14 days using it as an extracting-super? The remaining larvæ would hatch in seven days more, and all cells could be filled with honey.

E. L. HOFMANN.

Janesville, Minn., May 31.

[You have a correct understanding of lesson 8. As to how often you should visit an outyard, much will depend upon conditions, the season or locality, and whether or not the yard is run for comb or extracted honey. If the former we would make a visit as often as once a week, and oftener if swarming should get started at the yard.

Suppose a colony has two section-supers on, and it was discovered that the bees were building swarming-cells, we would move the parent hive off its stand and put an empty one in its place. We would then take out a frame of brood and the queen and put them in the empty hive; the remaining space we would fill out with frames of foundation. We would now shake over half the bees from the parent hive in front of the new hive on the old stand. This new hive should be given the two section-supers, after which the parent hive should be moved to another location. Should the parent hive have much unsealed brood it would be best to examine it in a few hours to see whether there were enough bees to take care of it; if not, put it in some other hive.

If, however, you are running this colony (that was starting swarming-cells) for *extracted* honey, and swarming-cells were under way, we would still advise carrying out the same procedure as outlined above. But a colony run for extracted, very possibly and probably would not be building swarming-cells, particularly if you kept ahead of them by giving them plenty of empty comb. During the swarming season, in the case of colonies run for extracted honey we would see that they were supplied with extra supers of comb, placing the empty frames under those partially filled out. If you do this, you will have very little trouble from swarming. Keep on tiering up in this way until the end of the season, even if the hive grows to be four and five stories high. The average queen, however, will not take care of more than one or two stories in addition to the brood-nest; that is to say, she will not have a colony strong enough for such expansion of the surplus apartment.

Referring more particularly to the question in your last paragraph, we may say that you can carry out the plan as there suggested.

In either the Doolittle or the Alexander book this whole question of keeping down swarming and running for either comb or extracted honey is fully discussed.—ED.]

THE TIME OF FEEDING MODIFIED BY LOCALITY; BEES THAT TEAR DOWN STARTERS AFTER BEING SHAKEN FOR FOUL BROOD.

On page 285, May 1, there is some argument against spring feeding for stimulative purposes. I wish you would advise me in this regard. Our main honey-flow comes between the first of February and the last of March; and if our bees do not get into condition for this mustard and fruit-bloom we do not realize much from them. Of course, we are apt to have some inferior weather during these months, which the bees might be forced to fly in if they were stimulated, however. I have one case of rosy brood in my 25 colonies. This one appeared last year, and was treated according to McEvoy's plan; but, instead of the bees building comb, they tore the starter off the frames and apparently did nothing; however, I decided to try them, so I gave them new frames with full sheets of foundation, upon which they went to work, and apparently did all right until this season, when I noticed, after they failed to store any surplus, that they still had the dread disease. I immediately gave them the same treatment, and find they are doing things just as they did a year

ago—that is, they pull the starter off the frames and build no comb and store no honey any place. What would you advise in this line?

The queen arrived as frisky as a lark, and was released by the bees. I haven't looked for further developments.

IS HONEY FROM FOUL-BROODY HIVES FIT FOR HUMAN CONSUMPTION? WHAT TO DO WITH SOUR HONEY.

Is there any reason why honey taken from a foul-broody hive should not be eaten?

About a month ago a friend having two hives of bees with which he had grown tired gave them to me. After getting them home I found that the super (a cherry-box) contained about a gallon of what I supposed to be good honey. I took it off and extracted it, put it in jars, and left it on a table in the pantry for three or four days, when, to my surprise, it had soured and fermented, forcing its way out of the jar under the cap, and is now unfit for any thing. Can you tell me what was the matter with it?

E. B. STONE.

Campbell, Cal., May 27.

[Your locality is peculiar from the fact that the flow comes so much earlier than it does in most localities in the United States, so directions that are intended mainly for the Northern Central States would not, of course, apply to a locality like yours. It might be necessary to feed at any time that would give you a good force of bees by the time your harvest comes on. Where you are located you do not have the winter problem to contend with, and it is this one fact that modifies all instructions accordingly.

We do not understand why your bees should tear down the starters that you gave them to draw out when feeding for foul brood. Possibly you left them too long without feeding. At the end of 24 hours the bees should be fed sugar syrup. This ought to have the effect of setting them to work immediately on the drawing-out of the starters.

Honey from foul-broody hives would be perfectly safe and palatable for human beings; but it must not, however, be put back on other hives that are healthy, as the infection would be almost sure to be carried there.

We should conclude that the honey you extracted must have been partially soured before it was taken from the hive. It could hardly turn acid in three or four days after extracting. There is not much that you can do with it except to convert it into honey vinegar. Boiling it will sweeten it somewhat, but not enough to take away the acid entirely. It would be unfit to eat, and unsafe to give back to the bees. If they will take it, however, it can be used for brood-rearing, but you must make sure that they consume it all before cold weather comes on.—ED.]

BOILER-PLATE MATTER TO BOOST THE SALE OF GLUCOSE.

The inclosed clipping is from the Detroit *Free Press* of June 24. It looks as though the glucose people had a hand in this, and were trying to get even with us bee-keepers for fighting their interests. It is too bad that such stories are allowed to circulate.

Highland, Mich., June 24.

R. D. MILLS.

[The clipping referred to is as follows.—ED.]

GOOD BEELESS HONEY.

A French humorist, Alphonse Alais, once maintained gravely that little bugs like bees could not possibly make honey, and that if they had been intelligent enough to do so they certainly would have been clever enough to keep the product to themselves. He concluded, therefore, that honey is made by the grocers who sell it, and the pretty fable of the bees was invented merely to help the sale.

Unfortunately the French honey-man was telling a good old story in the "skit" far much that is sold as honey never saw a bee-hive. Imitation honeys are usually made on a basis of glucose or uncrystallizable sugar, called sometimes in this country "corn syrup," because it results from the treatment of corn starch with sulphuric acid, declares the Cincinnati *Commercial-Tribune*.

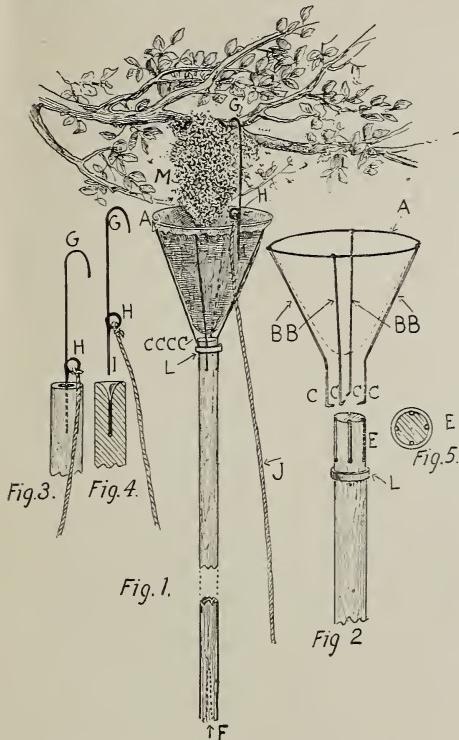
Pure glucose, with the addition of an extract skillfully prepared to imitate the flavor of the natural product, makes a very respectable "honey." The only way to avoid being served with the imitation would appear to be to keep bees.

We are assured by makers of imitation honey, however, that it is really much preferable to the genuine article, which is full of impurities of all kinds, such as pieces of bits of dead bees, and the like. Moreover the imitation honey is chemically pure. Possibly there may still be some so perverse as to prefer impure honey from the hive to the pure and lucid (but beeless) article.

[We agree with our correspondent that it looks very much as if the glucose people were back of this item. It has a certain suggestiveness of "boiler plate," and the object is, apparently, to boost the sale of glucose, or corn syrup, so called. If that is the purpose he is in high time the neat little scheme were laid bare.—ED.]

A HOME-MADE SWARM-CATCHER.

I am heavy man, 63 years old, and I never go up trees for swarms. About ten years ago I made a swarm-catcher which I have used ever since, and which is very satisfactory. I can extend the pole like a fish-rod when I wish to reach a swarm high in the air. I have reached swarms in this way over 30 feet high.



The illustration makes the construction sufficiently plain. I will say, however, the hook is placed in the loose hole in one end of the pole, so that by extending this end of the pole up near the swarm, the hook can be easily placed over the limb containing the swarm. The pole is then withdrawn, leaving the hook over the limb with a light rope leading to the ground. By reversing the pole I can now bring the swarm-catcher directly under the cluster, and, by pulling on the rope, shake the bees out into it. I use muslin supported by the wire, as shown, to make the basket for the bees.

Stouchsburg, Pa. W. F. POTTINGER.

[There ought to be some sort of cover to hold the bees in the basket, or they will almost immediately fly out again; otherwise the arrangement is very good.—ED.]

WHAT KIND OF CAR TO SELECT FOR MOVING BEES; CATTLE-CAR BETTER THAN BOX CAR.

I have shipped many carloads of bees, and had trouble but once, and that was when I shipped them in a box car. I think your advice, Mr. Editor, on this question, page 280, May 1, is wrong. For the average shipper the cattle-car is the car to use. A box car is too close. I leave the bottom-boards on, but cover the tops of the hives with wire cloth, and close the entrances tight. If the hives contain brood I remove two empty frames from one side and fasten the remaining frames so that they can not shake around; then in the corner of the top of the hive I fasten an oyster-can in the space where the frames were removed, and put a small piece of burlap to keep the water from shaking out. The last thing I do after loading the hives on the car is to fill these cans with water. Ordinarily this amount will be sufficient for a two-days' journey.

I always load the hives so that the frames are lengthwise of the car. Five ten-frame Langstroth hives may be placed in a row across the car, and these rows tier-

up as high as desired. It is important to brace everything solidly endwise, and there should be some bracing for the crosswise motion also, although this is not so bad. It is necessary to use strips 1 x 3 between the hives when tiering them up.

When I used the box car the honey was about one inch deep all over the car floor when the journey was over, and I lost twenty of the colonies. Since then I have used nothing but a cattle-car.

Imperial, Cal.

J. W. GEORGE.

[Much will depend on the time of year when a car of bees is to be shipped. In most cases, perhaps a cattle-car is to be preferred. The scheme of furnishing the bees with water is excellent.—ED.]

SWEET CLOVER; CAN IT BE SOWN AMONG CORN WHEN CULTIVATING THE LAST TIME?

Mr. Root:—Replying to your query, June 15, I would say I sowed sweet clover and crimson clover in corn about July 28 last year. It was not a fair test, as a terrific storm washed much soil and seed away shortly after sowing. The rest sprouted; but drought prevented summer and fall growth. The first heavy frost cut down sweet clover; but crimson clover was not hurt, and grew somewhat, and stayed green practically all winter, but plants were very small. Its several roots prevented heaving killing, and it did well this spring. Large quantity of sweet clover heaved and died, except where roots were over 8 inches. When the tip remained in the ground it soon caught up with crimson clover in spring. It seemed that seed where pressed into soil sprouted best.

GENESIS FARM.

Greencastle, Ind., June 25.

HOW TO FIND BLACK QUEENS.

I wish to amend (or, rather, add to) Mr. Doolittle's method of finding queens. I have been requeening, and still have several hundred to find, mostly black. Mr. Doolittle's plans are all good, but these nervous blacks will escape the most diligent search. Instead of telling his readers to look into the hive on the exposed side of the next comb he ought to have said, "Take your wife along to look into the hive while you look at the comb in hand." It greatly facilitates matters. Even then the blacks will sometimes escape. I often place an entrance-guard on the entrance of an empty hive, remove the combs (bees and all), and place the empty hive on the old stand, and shake all the bees in front, putting the combs back into their places in the new hive. Two or three hours later the queen may be found, vainly trying to enter. A whole row of hives may be thus treated without making any attempt to find the queen by search. Then go back and find the queens easily. Shaking is now recommended, any way.

Velasco, Texas, June 16.

R. A. MCKEE.

BEES IN GRAIN-CARS.

Near my bees there is a switch where feed is unloaded from the cars for a feed store. Early in the spring, before there is natural pollen, when they are unloading some kinds of feed the bees are so thick in the cars they bother the men much, as they fear them. They work on the dust on the loading platforms at the store, and are thick in the store, so they have to open the windows to let them out. I have not heard of their stinging any one.

E. D. HOWELL.

New Hampton, N. Y., May 5.

WIRE-CLOTH SEPARATORS NOT A SUCCESS.

We went to considerable expense to put wire-cloth separators in our supers—mesh about $\frac{1}{16}$ inch, with standard two-beewy sections, and the bees seemed to think they were new foundation of some sort. While in many colonies they were used as such, in others the comb was built crosswise and every other way; consequently we had to cut out our first flow of honey.

We are green hands in the business, and thought we were following instructions of others who had tried it. Chipley, Fla., June 16.

C. E. PLEAS.

SPLINTS ALL RIGHT IN UPPER STORIES.

Referring to Dr. Miller's Straw, page 330, I have had satisfactory results where splinted foundation was used in upper stories, but met with failure when placed in the brood-nest to be drawn out.

Athens, O.

J. C. ATKINSON.

[Perhaps Dr. Miller can explain why it did not work as well in the brood-nest.—ED.]

OUR HOMES

BY A. I. ROOT.

In blessing I will bless thee, and in multiplying I will multiply thy seed as the stars of the heaven, and as the sand which is upon the seashore.—GEN. 22:17.

And the Lord brought Abram forth and said, Look now toward heaven, and tell the stars, if thou be able to number them; and he said unto him, So shall thy seed be. And he believed in the Lord; and he counted it unto him for righteousness.—GEN. 15:5, 6.

Backward, turn backward, O Time, in thy flight;
Make me a child again just for to-night.*

Yesterday was the 5th of July, although we called it the "glorious Fourth," as the 4th fell on Sunday. Assembled on the green lawn in front of Mr. Calvert's home was all Rootville, and some other people who cared to come and help us with our balloon ascensions and fireworks. Rootville is not exclusive. We are always glad to welcome our friends and neighbors, high or low, rich or poor, white or black. With the exception of Mr. Calvert and his son Howard, our five children and nine grandchildren were there in that little group. Yes, I must *also* except the latest arrival at Rootville. I have several times quoted old father Langstroth where he says there can be no real healthy, normal colony of bees without daily accessions of hatching brood; and it has been for years past a sort of joke among our five children, sons-in-law and daughters-in-law, that father would be grumbling if there were not one or more *babies* somewhere in the camp; and it has been my pleasant task in the years that have come and gone to have daily intercourse with these grandchildren as they quietly step into our homes one by one. I love little chickens, and some of my keenest enjoyments are in getting acquainted with them and letting them know that I love them and receive them as a great and precious gift from the loving Father above. It is not only the chickens, dear friends. God knows I love *humanity* in embryo a thousand times more than I do chickens. As I grow older my mind seems turning toward babies and the juveniles—not only those that belong to Rootville, but the babies and children everywhere, even away off in "heathen China," as we used to call it. Perhaps you have noticed, and may be many of you have felt sorry, that I am gradually losing my interest and enthusiasm for high-pressure gardening. I confess I have been feeling a little sad about it; but it seems as if God has been telling me of late that I am getting too far along in years to grow crops of any thing or personally superintend the growing of crops, or even to "make money" in any other way.

*I have in times past told you how happy I get in humming over some beautiful hymn that seems to me like a piece of inspiration. Well, I have never had very much of a taste for poetry. It is seldom that I strike on something that I can understand and appreciate; but the lines I have given above have been running through my mind for some days past. I have repeated them over and over to my friends as well as to myself, and get real happy over them, especially when I am looking into the faces of the dear children and grandchildren that God has given to Mrs. Root and myself.

Our business manager, Mr. Calvert, tells me that I have earned a right to rest and to take a sort of vacation in my old age; but I hardly think that, even if I live to be a hundred years old, I shall enjoy any sort of vacation that includes sitting still, or even reading books and papers. I can enjoy the books and papers for a few minutes at a time, say half an hour, and then I must be up and doing; and I feel proud just now to be up and doing for the children. May the Lord be praised for the fact that more attention is being given just now to the physical and mental (and I hope spiritual) welfare of our children than ever before. A wonderful thing has been done in the way of providing better milk for the babies, especially when the hot season comes on—better drinking-water, not only for the babies, but for everybody else. The great State of Ohio has been especially active in looking into these things; and my heart was made to rejoice just a few days ago in noticing by the papers that the great city of Cleveland not only insists on good milk for the babies, but just now they are inaugurating a crusade by sending experienced trained nurses around among the babies, especially in the homes of the poor, to instruct the mothers how to care for these babies so that they will not get sick during the hot weather; and if any sick babies are found, especially where there is an unsanitary environment, the health department of the city is directed to make an investigation. Oh what a glorious work this is! Do you not agree with me, dear friends, that the babies are of more account than chickens and growing vegetables, bees, or any thing else? Jesus said of them, "Of such is the kingdom of heaven."

Just now Mrs. Root and I have our youngest daughter in our own home. She and her husband are getting ready to build one more home in Rootville; and there is therefore a baby in our home—a girl baby seven months old, and this baby and I are the greatest of friends. I tell them all around the neighborhood that this baby saves up her most winning smiles and her cutest ways for her grandpa.

Years ago, as some of our older readers may remember, I used to take Blue Eyes on my knees when she was just old enough to stand a little while on her feet; and as I took her by the hand and raised her up I would say, "'Way up high, papa's baby.' I think I told you, too, that every time her childish face shone with enthusiasm, in getting up on her feet she gave *me* a tremendous pull. She really was getting that same papa a little higher up than he had been, at just about that time. He did not get "'way up high,'" perhaps, but that baby's face was a mighty lever in getting him a *little* higher up. Well, with this present baby, "Jean," that I have been telling you about, the phraseology has to be changed to "'Way up high, *grandpa's* baby.'

So it has been, dear reader, ever since Ernest came into our home, almost fifty years ago. Every new comer has, through

God's grace, I hope, raised your old friend A. I. Root a little higher and nearer to God; and the same with these grandchildren as they have come one by one; and just now the whole neighborhood is rejoicing because of still another arrival. Huber, the youngest of the Root family, on the 20th of June, received into his home a most precious gift in the shape of a girl baby.*

Now do not think me egotistical, friends, or that I am imagining great things for the Root family. As I understand our texts this promise was not only to the patriarch Abram, but to all who believe God and try to be as obedient as Abram was. One text tells us that this promise was, "because thou hast obeyed my voice;" and, as I understand it, every one who is as faithful and honest and true as Abram shall receive a like promise and get a like reward.

While I had these things in mind, somebody repeated that beautiful couplet I have put at the head of this talk. The writer of it was probably approaching old age; but in one sense of the word old father Time can never go back. We may go back in memory to childhood, and that would be the only way in which we could live our lives over again. As I understand it, by obeying God's command, and having children of our own, and devoting our lives to bringing these children up in the straight and narrow path, then we can look into their innocent little faces and get young again by watching and directing their growth in all that is good and pure and pleasing in God's sight. I am laughed at sometimes because, when strangers come to visit us, after I become a little acquainted I ask if they are professing Christians; and a little while after I ask if they are married and have children. Now, how can one take a *live interest* in looking after the babies and the children all over the world unless they really have children of their own? My brother-in-law, "neighbor H." (as most of you know him), wrote an article recently for the Cleveland *Citizen* about getting married. It pleased me so much that I want to put an extract from it in here:

Young man, if you love her, and she will trust you, get married to-day. Don't wait for her to buy a new hat or fool away a lot of money on a wedding. A home, be it ever so humble, is the happiest place on earth, and you two are all that is animate in the new home.

Get married, because two can fight life's fierce battle better than either can alone. Get married, because God and nature so ordained it, and the history of all the ages proves that the theory is correct, and all conditions show that human nature has not changed.

A married man can procure and hold a job better than a single man can. Be temperate and economical in all things; and, young man, as you make a pledge at the altar to cherish until death, make another pledge, in the name of Thomas Jefferson, Patrick Henry, Ben Franklin, Geo. Washington, and all of the old patriots of 1776, that you will use your best endeavors to push

* As Miss Katherine Eva Root is only about three weeks old to-day, July 10, I can not say very much about her "accomplishments," but as her father and mother are both very nice-looking young people, as a matter of course that baby is already about the handsomest one in the whole wide world. I congratulated them on having named her after Miss Katherine Wright, sister of the Wright brothers, who is just now, with those brothers, almost the center of attraction to the whole world.

that immortal principle, that all men have a sacred right to life and happiness, into operation in this great land of ours.

To the above I want to add a hearty *amen*. If all the men who hold office in the United States had wives and children and grandchildren growing up around them, I think we should have a better chance to protect children than we have now. Consider the cigarette business for an illustration.

By the way, I was called on to address our Sunday school on the subject of cigarettes, on Sunday, June 27. That Sunday was set apart, as you may know, as anti-cigarette Sunday by the 8000 Sunday-schools of Ohio. In my talk I said there were 588 cigarette-factories in the United States; and it has been estimated that 1500 boys begin using cigarettes every day in the year, notwithstanding nine States have already passed stringent laws in regard to selling them or giving them away. A dozen more are demanding similar legislation, Ohio among the number. In my talk I said it seemed to me that nine out of ten of our voters here in Ohio would, if they had a chance, vote against the cigarette traffic; and I feel *sure* that four out of five voters, especially if they would talk over the matter with their wives, would vote against cigarettes. In other words, if we could have "local option" on cigarettes, as we have it with saloons, Ohio would "go dry" with a mighty rush. And then I asked how it comes about that we fail again and again in keeping these terrible things away from our children. It is like the beer and liquor business. The millionaire brewers and cigarette manufacturers have, with their money, succeeded in getting corrupt and bad men into office.

I closed my talk by saying, "May God help us in our fight against the powers of darkness." A young friend of mine who was present, and heard my talk, wrote me a letter a day or so afterward; and, although I am not a politician, I take pleasure in presenting this letter to the fathers and mothers of our land.

DIRECT LEGISLATION.

Dear Mr. Root.—Your answer to the question as to why the cigarette traffic goes on in Ohio in opposition, as we believe, to the will of a large majority of the voters, does not satisfy me. I believe it to be only partly true, if true at all, that the money of the tobacco men blocks the anti-cigarette reform in Ohio. Your answer, the answer of many to this and to similar great questions, ignores the possibility of direct law-making by these same voters. In season and out of season, wherever and whenever I can rightfully protest against ignoring this magnificent fact that the great hope of all reforms like this anti-cigarette law is in the system of direct law-making, or direct legislation by the people, I feel bound to do so. If I succeed only in keeping my conscience clear, it will pay me. So I do emphatically but respectfully protest against charging the delay or defeat of any legislative reform in this republic (at least in any State like ours) to the power of the money of any corporation. I believe with all my heart in majority rule by reasonable methods. The initiative, the referendum, and the recall, are most reasonable. Switzerland and several States of our Union have demonstrated this statement beyond any reasonable doubt.

May I take a very little more of your time, Mr. Root, to show the position of us who advocate direct legislation? You have a great opportunity to tell this great open secret of political reform in all free nations. I have but a little opportunity; but I must not miss what

is before me. You have been willing to listen to all honest suggestions for helping to overthrow wrong, and for setting up the good; so I venture this simple message. You believe in depending on the popular-vote plan (practically direct legislation), or local option, for fighting down the liquor-traffic. Why not depend on it for banishing cigarettes, tobacco, the social evil, gambling, and the merciless business monopolies that are grinding to-day the face of the poor? Prof. Frank Parsons, a good authority, says in his book "The City for the People," "Direct legislation will open the door to all other reforms as fast as the people desire them." "It will compel the people to think and act." "It will develop the people's interest in public affairs." Besides, as he points out, this reform is necessary to real self-government and to justice—and many other strong reasons are stated. I have often longed to see you show an appreciation of the unmeasured possibilities for good in this reform of reforms. To-day, in the Sunday-school, when you so calmly ignored it I was stirred up to make known to you, in some way, my sentiments.

Thanking you sincerely for your hearty support to many reforms that help us all, and hoping you will consider this humble appeal, I remain

Even if such matters could be decided or delayed by money only, your answer would be wrong, it seems to me; for the people are richer than any corporation.

Medina, Ohio, June 28.

O. K. HEWES.

I like that concluding sentence, "the people are richer than any corporation;" and, if I am correct, the whole wide world is growing toward direct legislation. Just now great crops of wheat are being harvested in our locality, and perhaps in many others. If the farmers receive the prices quoted in our daily papers for wheat they are somewhat excusable for getting excited; and I always rejoice in seeing those who till the soil get good prices for their products, even if it should be a little hard on those who have to buy their daily bread. Just now is the time for making a short cut in the way of leaving out the middleman entirely, and letting the producer meet the consumer. Let the two get acquainted. In our own home we produce our own eggs and we also produce the excellent dry old corn that I feed to our hens. So you see no middleman has any thing to do with it. Brother Hutchinson tells us in this issue how a man who produces honey can get acquainted with the consumer, and get straight 10 cts. per lb. instead of 7 cts. Perhaps this is not direct legislation, but it is direct finance.

There is another pleasant feature about carrying your product direct to the consumer. You establish friendly relations and make pleasant acquaintances. This morning the man who brings us our weekly supply of butter took his little girl along; and Mrs. Root remarked how much the girl looked like her mother, for she and her mother used to be close neighbors fifty years ago. Now, it is not possible for the farmer to market all his products in this way, perhaps, but we can go a great way toward it. The *Rural New-Yorker* has been figuring up to see what per cent of the prices the farmer receives for his produce that is sold in the city markets. I believe they decided that the producer got only about 40 cts. out of a dollar the stuff sold for. The other 60 cts. went to the middleman, the express companies, and railway companies. Of course it is some work to peddle out your fruit and eggs and grain; but if by so doing you can get 75 cts. or a dollar for what otherwise

brings less than half that amount, would it not be a profitable way of doing? When we come to fixing up matters like the existence of the saloon in a friendly way, letting the majority rule, we find that *local option* is direct legislation and nothing else. Another thing, if the producer and consumer get well enough acquainted so they can pull together, all in one direction, there would not be very much chance for millionaire speculators, and we shall have but little use for them either. May God help us in this sort of direct legislation, for it certainly will help us on the way to righteousness, and God will bless us as a people as he did old father Abram and his descendants.

POULTRY DEPARTMENT

BY A. I. ROOT.

FIRELESS BROODERS, AND BROODERS THAT ARE NOT FIRELESS.

On p. 384 for June 1st issue, I said, "I am inclined to think the chickens sometimes hover around the hot-water pipes when they do not need the heat."* In the footnote Mr. R. R. Root says, "A healthy chicken will never stay in the brooder during the daytime unless it needs warmth." Well, this may be true; but, unfortunately, we do not always have all healthy chicks. During the fore part of June, this year, it rained almost every day. We took some chickens out of the incubator about the first of the month. They are out on the grassy lawn, but they must either be kept in until the dew is off, and driven in before every shower, or else have some heat in the brooder to dry them off when wet or damp. They soon learned to go out in the wet grass, between showers for a while, but they soon hustled back to the hot-water pipes. I at first thought this was a wonderful illustration of the value of the Root brooder, even in the month of June; but after about ten days, when it still kept rainy, I began to feel the chickens were not doing as well as they ought to do, as they kept spending a great part of the time in hugging the hot pipes, even when the weather was warm and the grass dry. About this time I came across the following, which I clip from *Poultry* for June:

I will not go back to the artificial heating of brooders, as I know it is more or less detrimental to our future stock. Since we have used the lampless brooder we are not troubled with chicks pasting up behind as we formerly were. We seldom have any dwarfs or weakly cockerels or pullets. Chicks raised this way seem more hardy and vigorous. The time, labor, and expense it takes to run a lamp is quite an item in the course of the breeding season.

The firs' thing in the morning the chicks are let out of the brooder given water and feed in their litter of hay chaff, and that's the end of it until noon, then they are cared for again and again just before time to get

*Just now I find in the *Poultry Advocate* the following, written by a woman:

We have always believed that one of the greatest mistakes made with the raising of chicks was that of too much heat, which made them weak, but which was hard to overcome with the use of the brooder.

them into the brooder for the night. They are so easily taken care of we hardly know we are raising them.

By the lampless method I find they feather out more evenly, and their wing feathers grow slower and do not hang down as I have had them do on chicks raised by artificial heat. Many times we have had to clip the wings of chicks to keep them from dying. We have no more weak-legged chicks to bother with either.

I like this fireless brooding better than any I have yet tried; but it seems the people here are afraid to try it. I should like very much to give the plans for making this brooder, but I am afraid I would not be allowed to do so, as it is not original with me.

The above describes the trouble exactly. A good many of the chickens were getting "pasted up behind," and some of them went around with their wing feathers dragging on the ground. When wet and cold the heat is all right; but they were getting into the habit, as human beings (as well as chickens) sometimes do, of sitting around the fire instead of taking the amount of exercise we all need for health. In this Root brooder that I use, the hot-water pipes and boiler can readily be lifted out. I took out the heating-apparatus and put it away. Then I sewed some cotton batting on the under side of the wire-cloth frame that covers the top of the brooder.* This made a very good hover by raising the floor so the chickens could not pile up one on top of the other. The first night they seemed a little uneasy and put out, because they had no hot pipe to cluster against; but the manifest improvement in health was noticeable right away, and I am inclined to agree entirely with the writer of the article I have quoted. I should be glad to give his full address, but I do not find it in *Poultry*.

The following, which I clip from the *Poultry Tribune*, tells how to make a brooder that gives all the heat that may be thought necessary early in the season, or when the chickens are very young, and that can be very quickly converted into a fireless brooder.

A "JUG" BROODER.

When the chicks are ready to be taken out of the incubators we put them in brooders of our own construction, of which we have a number. These are what is known as the "jug" brooder. They are made very simple: First we take a drygoods-box about three feet long and about the same width, and about two feet high, with a slanting roof of about two inches to the foot, covered with prepared ready roofing, with an inch hole through the top for ventilation, and seven holes just under the roof in the front. About twelve inches from the bottom we put a deck or a platform, on which we put the chicks—about fifty—for we think that that is enough for one brooder. Now, in the center of the platform we cut a hole large enough for a gallon jug to stand in, then we take a piece of galvanized iron, 12 x 12, with a hole four inches in diameter. This is nailed to the under side of the platform, under the hole. On this rests the jug. We fill the jug two-thirds full of hot water placing in the top a cork with a hole through it so as to let out all steam that might accumulate in the jug. In the front of this brooder, above the platform, is a glass, 9 x 12, for light. At one end of this glass is a small hole, about 5 x 4, with a slide door to let the chicks down into the yard, which I will afterward explain. Under the jug stands a lamp to keep the water in the jug warm. This lamp is four inches high, from the bottom to the edge of the chimney. The chimney is five inches high, leaving a space of three inches to the jug.

* After a day's use, the chickens were tearing out the batting over them so much that I pushed the frame, batting and all, into a clean, porous, burlap sack, the burlap being loose enough to drop down some over their backs, and since then they are doing finely. The chicks set around with their heads close to the abundant ventilators, and altogether it makes one of the best fireless brooders.

In the back of the brooder, under the platform is a door just large enough to slip the lamp through. In this door is a small hole, so that we can see the flame without opening the door. If we wish to, we can take out the platform (after the chicks are large enough to get along without the heat) and let them in on the bottom floor; then they can run out and in through the small door at the back. It is well, also, to put three or four one-inch holes under the platform for ventilation, for the lamp. All the cost of making this jug brooder is the roofing, the box, and a little work, which is very cheap on a rainy day.

The idea of a brooder kept warm by means of a jug of hot water is of course, very old; but the plan given above, of keeping the water in the jug hot by means of a lamp, is new to me, and I feel sure it will be very much less trouble than having to fill up the jug whenever the water gets cold.

SORTING OUT LAYING HENS FROM THOSE THAT DO NOT LAY.

How much would you give, my poultry friends, for a device that would automatically put all the hens in one pen that lay an egg each during the day, and leave all the rest out that do *not* lay? I have succeeded in doing that very thing; in fact, out of my flock of forty Leghorns, sixteen separated themselves over into a yard of their own, and showed me sixteen eggs in the nests. In the first place, I divided off my acre of orchard into two parts. I have explained before that my hens have a great preference for laying upstairs in the two Philo poultry-houses. Well, taking advantage of their strong inclination to lay in the same place they have been laying in right along, I managed to make a success of my device the very first trial. The arrangement not only sorts out the hens that lay the eggs, but it secures a better and surer fertilization of the eggs. We have two males for the forty hens. The best one was put into this new yard. The trap (or "bee-escape for chickens"), such as we have been talking about, was put right near where the laying hens go upstairs. At first they looked at this little gate curiously; but as fast as the disposition to lay came over them they finally marched through one after another. After the egg was laid, this trap prevented them from going out at the same place they came in at; so they turned and went into the new yard, where a choice male was waiting for them.

I do not want to have you understand that I get *only* sixteen eggs daily from forty hens; for about half a dozen more had nests in the large poultry-house. These I did not get. But, of course, I can easily manage to run these into that new yard in the same way; and I want to tell you it is quite interesting to me when night comes to see which hens are furnishing the eggs. I was particularly pleased to see they were all big solid hens in good flesh. The ones that did not lay were those that had begun to moult. Then there were others that were thin and spare, and not in fine condition.

I believe I have invented a cheaper gate to let fowls go through one way, but not come back, than has ever been suggested. Of course it will be all right for any kind of

trap nest, and the whole thing can be manufactured in quantities for five or ten cents. I will try to give a picture of it, in our next issue. If any of you get in a hurry to see my "new invention," just tell me so on a postal and I will give you an advance proof of the device.

HOW TO TELL WHETHER THE EGGS ARE GOING TO HATCH.

In case of delayed incubation, either by hens or incubator, it would often be exceedingly convenient to tell whether or not there is life in the eggs without breaking them. This can be done very easily with our egg-tester described on page 384, June 15. Today, July 12, I had two duck eggs that had been under different hens for 29 days; but as the egg-tester showed me both ducks kicking about quite lively I took courage. The delayed hatching was caused by hens that neglected their business.*

HIGH-PRESSURE GARDENING

By A. I. Root

BUCKWHEAT FOR BEE-KEEPERS — A NEW WRINKLE.

We clip the following article from the *Michigan Farmer* for June 26:

GROWING BUCKWHEAT FOR HONEY.

In most clover and basswood sections there is little for the bees to gather after these cease to yield. Where asters, goldenrods, and "stick-tights" abound, the flow from them commences along the latter part of August. There are many locations where there is practically nothing to gather, unless it is honey-dew, and I don't hanker after that kind of honey after the cessation of the white-clover and basswood flow. If this long honey dearth can, in a measure, be reduced it is a great thing for the bees and their keeper. Enough to live on may be gathered, or even sufficient for winter stores.

It has not yet been found to pay to provide artificial bee pasturage unless it yields other profits. Plants that will do this are clover, buckwheat, alfalfa, and others.

The one of these best suited to fill the honey dearth after basswood is buckwheat. It is a profitable crop to grow, even if its honey-yielding qualities are not considered, as its cultivation by non-bee-keeping farmers testifies.

As shown by statistics, buckwheat is one of the crops the area of which is decreasing. But the price per bushel remains very steady. In this State, as well as in Michigan, considerable light sandy land is being farmed. Here rye is one of the main crops for such soil. Buckwheat grows about as well, and the yields per acre are larger, and, I think, for a series of years, the price per bushel is as high if not higher. And I find that buckwheat is better fitted to practice green manuring with.

I have given some reasons for having buckwheat in the crop rotation, and will say something of its cultivation. It works nicely in rotation with rye. Let us say a rye crop has been taken from a certain field. If the soil is light (the kind that is used for buckwheat-growing here), I sow right among the stubble without plowing. If the rye is sown early enough, some rape and turnip seed can be mixed with it. The reason for this will be explained later. I like to sow as soon after the field is as clear as possible. The rye will grow more, and furnish more fall pasturage. Yes, I pasture stock on it during October. It helps the milk-flow and saves hay. To increase the amount of green feed is one reason why some rape seed is mixed with the rye.

The following spring sheep can be pastured on the

* Mrs. Root suggested, when I was telling the family about it, that I had actually succeeded in discovering a way of "counting my chickens before they were hatched." (The two ducks are now, July 13, hatched.)

rye, but don't overdo the matter. When the rye commences to head out is the right time to plow if under. Don't wait until time to sow the buckwheat before plowing. Buckwheat does better on a settled seed-bed. If the rye is turned under at least two weeks before ready to sow the buckwheat, the soil will compact nicely if worked. Three pecks per acre is used broadcast; a little less if drilled. I rather think drilling is preferable.

Now I will tell why some rape and turnip seed is to be mixed with the rye. Both plants, when in bloom, are eagerly visited by the bees. They come into bloom the last of May or the first of June, according to the season. At this time the fruit-tree bloom is about over, and there are few other flowers for the bees to work on until white clover opens.

The buckwheat can be cut with a self-binder. The soil will be in a loose pliable condition, and I don't think any thing can be gained by plowing it. If you have a disc harrow, work over the buckwheat stubble. Then broadcast or drill in rye. The rye is to be harvested the following season. It can, of course, be turned under and buckwheat grown again.

In from six to eight weeks after sowing, the buckwheat will commence to bloom. As the honey is dark-colored, the crop must be sown late enough so the white honey may not be discolored. Any way, as soon as bees begin to work on buckwheat all white honey should be removed to prevent its discoloration.

If any buckwheat honey is stored in the sections, try to sell it direct to consumers. Owing to the belief that all dark-colored honeys are inferior in quality; it does not sell well to retailers. Good well-ripened buckwheat honey, however, has a smack of its own, and a taste is easily acquired for it.

Seedsmen have lauded to the skies the New Japanese buckwheat. This variety is really inferior to the Silverhill, both as to yield of grain and honey. It is now less grown than formerly. Silverhill is the variety to grow. Millers, too, prefer it to the Japanese, as it is said to make more flour per given quantity of kernels.

Buckwheat is sometimes sown in corn at the last cultivation. This gives the bees something to work on. I don't like it, though, for, as some of the seed ripens, a volunteer crop will come up among the spring-sown grain. Such plants bloom while the bees are working on white clover; and if this buckwheat also is visited the honey will have an amber tinge. It does not sell so readily then.

F. A. STROHSCHEN.

If I understand the writer of the above article he has struck on a plan by which the bee-keeper can get two valuable crops for honey; and not only that, he can keep on growing buckwheat continuously year after year—at least for a time. We have been in the habit for years of sowing rye after digging our potatoes, or taking off some other crop, and turning the rye under the following spring just before it begins to head out; but it never occurred to me before that I could get two honey crops by sowing turnip and rape seed with the rye. I know they will both winter over in our locality, and furnish valuable blossoms for the bees, because I have done so repeatedly, but never in connection with rye. The *Rural New Yorker* has for years past recommended cowhorn turnips just to get a valuable crop to turn under in the spring, but the bee-keeper not only has the rape and turnip to turn under, but he can get quite a yield of honey when there is but little else for the bees to work on. Turnips and rape are also valuable for feed; but if we run for feed we can not well have honey. I hope a number of our bee-keepers will test this idea, and report. If the frost holds off in the fall, good crops of buckwheat can be secured, even if sown as late as Aug. 1 or later; and if the frost should ruin your chance of getting seed, the valuable blossoms for honey, and the buckwheat to turn under for succeeding crops, will be worth all it costs.

17 Cents a Day

Buys an Oliver

This amazing offer—the New Model Oliver Typewriter No. 5 at **17 cents a day**—is open to everybody, everywhere.

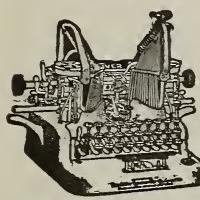
It's our new and immensely popular plan of selling Oliver Typewriters on little easy payments. The abandonment of *long-hand* in favor of clean, legible, beautiful *typewriting* is the next great step in human progress.

Already—in all lines of business and in all professions the use of *pen and ink* is largely restricted to the writing of *signatures*.

Business Colleges and High Schools, watchful of the trend of public sentiment, are training a vast army of young people in the use of Oliver Typewriters.

The prompt and generous response of the Oliver Typewriter Company to the world-wide demand for *universal typewriting*, gives tremendous impetus to the movement.

The Oliver, with the largest sale of any typewriter in existence, was the logical machine to take the initiative in bringing about the *universal use of typewriters*. It always leads!



SAVE YOUR PENNIES AND OWN

The

OLIVER

Typewriter

THE STANDARD VISIBLE WRITER

This "17-Cents-a-Day" selling plan makes the Oliver as easy to own as to rent. It places the machine within easy reach of every home—every individual. A man's "cigar money"—a woman's "pin money"—will buy it.

Clerks on small salaries can now afford to own Olivers. By utilizing spare moments for practice they may fit themselves for more important positions.

School boys and school girls can buy Olivers by saving their pennies.

You can buy an Oliver on this plan at the regular catalog price—\$100. A small first payment brings the machine. Then you save 17 cents a day and pay monthly.

And the possession of an Oliver Typewriter enables you to earn money to finish paying for the machine.

Advantages

The Oliver is the most highly perfected typewriter on the market—hence its **100 per cent efficiency**.

Among its scores of conveniences are:

- the Balance Shift
- the Rolling Base
- the Double Return
- the Locomotive Base
- the Automatic Spacer
- the Automatic Tabulator
- the Disappearing Indicator
- the Adjustable Paper Finder
- the Scientific Condensed Keyboard

Can you spend 17 Cents a day to better advantage than in the purchase of this wonderful machine?

Write for Special Easy-payment Proposition or see the nearest Oliver Agent.

The Oliver Typewriter Co.
911 Huron Road,

Cleveland, Ohio.

BANKING BY MAIL

4%

Money deposited with us is secure, and works for you continually. Our perfect system of banking BY MAIL brings this opportunity to your door.

The Savings Deposit Bank has a capital and surplus of \$70,000, and assets of over \$800,000. Its policy is conservative; its affairs are ably managed by capable and successful business men.

Deposits of \$1.00 and upward accepted, on which we pay a yearly interest of **4 PER CENT**, compounded semi-annually. Send currency in registered letter, your own check, or by post-office or express money-order.

Write for the Booklet Today

Resources
\$800,000

Established
1892

THE SAVINGS DEPOSIT BANK COMPANY

MEDINA, OHIO

15 Cents a Rod

For a 22-inch Hog Fence; 16¢ for 22-inch; 19¢ for 31-inch; 22 1-2¢ for 34-inch; 27¢ for a 47-inch Farm Fence. 50-inch Poultry Fence 37¢. Lowest prices ever made. Sold on 30 days trial. Catalog free. Write for it today.

KITSELMAN BROS.,
Box 21, MUNCIE, IND.

Makes and burns its own gas and produces a pure white, steady, safe, 100 candle power light. No wick, smoke, dirt, grease or odor.

THE BEST "LIGHT"

Lighted instantly. Over 200 styles. Agents wanted. Write for catalog.

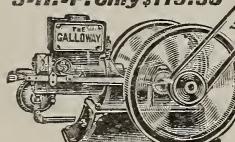
THE BEST LIGHT CO.
306 E. 5th St., Canton, O.

\$50 to \$300 SAVED

We are manufacturers, not merchants. Save dealers, jobbers and catalog house profit. I'll save you from \$50 to \$300 on my High Grade Standard Gasoline Engines from 2 to 22-H.-P.—Price direct to you lower than dealers or jobbers have to pay for similar engines in carload lots for spot cash.

GALLOWAY

Price and quality speak for themselves and you are to be the sole judge. Sell your poorest horse and buy a **5-H.-P. only \$119.50**



You Can Make from \$50 to \$300 a Day
Direct From My Factory on 30 Days' Free Trial. Satisfaction or money back. Write for special proposition. All you pay me is for raw material, labor and one small profit. Send for my big BOOK FREE.

Wm. Galloway, Pres.
Wm. Galloway Co.
1685 Galloway Station
Waterloo, Iowa

A CLEAN SHAVE



Your new blades all need stropping before using. Not one in ten comes sharp enough for a clean shave.

Why scrape your face with dull blades, or continue to throw away money for new ones, when the **Gaylor Automatic Stroppe** will sharpen all your dull blades in a few moments, giving them a hair-splitting edge better than new. The motion is automatic, no practice required—a child can use it. It is the only stropper in the world that successfully sharpens double-edged blades.

"I take pleasure in saying that the Gaylor Strop is some thing that I have tested most thoroughly, and it is all that the inventor claims for it; in fact, it will often make double-edged blades with the strop that the Gaylor people claim are sharper and neater than when they came from the factory. I scarcely know how I could get along without a Gaylor Sharpener."

"It seems to me there ought to be a big demand for something of this sort because thousands of wafer safety-razor blades are thrown away that might just as well be saved. The dull blades can be made as good as new, and sometimes even better."

E. R. ROOT,
"Editor of *Advertisings*"

Order through your dealer. Or will send postpaid on receipt of price. Be sure to state what make of blade. Money willingly refunded if not entirely satisfactory.

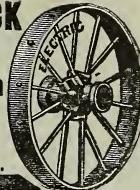
Write for descriptive circular. Agents wanted.

Gaylor Automatic Stropper Company, Stamford, Conn.

SAVE YOUR BACK

Save time, horses, work and money by using an
Electric Handy Wagon

Low wheels, broad tires. No living man can build a better. Book on "WheelSense" free. Electric Wheel Co. Box 95, Quincy, Ill.



Grow Mushrooms

For Big and Quick Profits
Or For Your Own Use.

Ten years' experience enables me to give practical instructions worth many dollars to you without interfering with regular occupation, no matter where located. Send for Free Book and particulars how to start, etc.



JACKSON MUSHROOM FARM

3448 N. Western Ave.

Chicago, Ill.

Queens for BUSINESS

As well as Handsome

Bred by a Specialist

F. J. WARDELL, Uhrichsville, Ohio

Here is the kind of testimonials I get from customers:

Halleck, Elko Co., Nev., June 13, 1909.

Mr. F. J. Wardell.—I thank you very much for sending me another queen, which came yesterday. Your queens are doing fine, and I am well pleased with them; so I will take fifteen more. Send on the 21st of June. I inclose Mr. Murphy's check for \$15. This is my associate in the bees.

Hoping for some more fine queens, I am

Yours truly, J. E. PATTON.

I can please you as well as Mr. Patton. My strain is the original red-clover long-tongued Italians, with three bands. They are hustlers, and handsome too. Nothing but high-grade stock sent out. I have no poor stock to sell. Should you require a very high-grade breeding-queen I generally have a few in stock.

Please send for my circular.

June to October

Untested	\$1.00
Select Untested	1.25
Tested	2.00
Select Tested	3.00
Breeding Queens	3.50
Select Breeding Queens	7.50
Extra-select Breeding Queens	10.00

F. J. WARDELL, Uhrichsville, Ohio

I WANT TO BUY YOUR FARM

If you wish to sell same, give me price, description, and state when possession can be had. Not particular about location. I wish to hear from the OWNER only, who will sell direct to buyer. Address

C. P. WIKE, 639 Franklin St., READING, PENN.

Golden and Three-banded Italian Queens and Bees

At Special Price for July and August

Fine Golden and Three-banded tested queens at 95¢; untested, 65¢; virgins, 25¢; and if these queens are not just as good as any \$1.50 or \$2.00 queen, return them and get your money back; and if you order one you will order more, because they are good ones. 100 stands of Italian bees, with fine tested queen, in Dov'd hives. I have more than I can attend to. Special price, \$4.75 if ordered at once. Three-frame nuclei at \$2.75.

J. L. FAJEN, - ALMA, - MISSOURI

ITALIAN QUEENS

Reared from a superior strain of long-tongued red-clover Italian bees, world-famous for their gentleness, hardiness, and honey-gathering qualities.

Untested queens	one, \$.85;	six, \$4.25;	twelve, \$8.00
Select untested	" 1.00;	" 5.00;	" 9.00
Tested	" 1.25;	" 7.00;	" 13.00
Select tested	" 2.50;		
Tested for honey	" 3.50.		

Breeders, \$3.00 to \$5.00.
Golden Adel queens at same price. Safe arrival and pure mating guaranteed.

J. R. McCORKLE, Wingate, Ind.

J. E. HAND will begin the season of 1909 with improved facilities for rearing the

CHOICEST QUEENS

He has developed a system of queen-rearing that contains all the best points of other methods with none of the defects, including some valuable improvements of his own—in short, a system through which the highest queen development is reached by correct and scientific principles, which means that he is now in position to offer to the bee-keeping public a higher grade of queens than is usually offered in the common utility classes, owing to scientific methods which produce queens of a higher development than can be reared by the ordinary methods in vogue, and also to an improved method of classifying queens which strikes the word *select* from our list, and gives a square deal to all. No selects means no culls, and the highest grade of queens in the untested and tested classes. These queens will be reared from a superior strain of hardy northern-bred red-clover Italians, "the very best." They are warranted to produce uniformly marked three-banded bees of superior honey-gathering qualities. Price, after June 1, untested, \$1.00 each; 6, \$5.00; 12, \$9.00; tested, \$1.50; 6, \$8.00; 12, \$15.00. Breeder, tested for queen-rearing, \$5.00. Valuable information free. Send for it to-day.

J. E. HAND, BIRMINGHAM, OHIO, ERIE CO.

Doolittle & Clark

are now sending out choice ITALIAN QUEENS at the following prices: Untested, \$1.00 each; three, \$2.50; 12, \$9.00. Tested, \$2.00 each; three, \$5.00; 12, \$18.00. Breeders, \$2.50, \$5.00, \$10.00.

Borodino - Onondaga Co. - New York

Swarthmore's Pedigreed Goldens

Swart more Apiaries, Swarthmore, Pa.

Italian Tested Selected Queens

Finest Quality.
Safe Arrival Guaranteed.

L. SIMONI, Livorno (Leghorn), Italy
Successor of Bianconcini.

Taylor's Queens for 1909

J. W. Taylor & Son have made a specialty of breeding for the best honey-gatherers. Our three-banded Italians can't be beat, or haven't been, as honey-gatherers. Untested, 75 cts each, or \$8.00 a dozen; tested queens, \$1.00 each, or six for \$5.00. Select tested queens, \$1.50 each; breeders, the very best, \$3.00 to \$5.00 each. Send all orders to

J. W. TAYLOR & SON, BEEVILLE, BEE COUNTY, TEXAS



If You Need a Nice Yellow Italian Queen at once, send to C. J. FAJEN, Blackburn, Mo. Untested, only 65c; tested, \$1.25; 3-fr. nuclei with fine queen, \$2.75; full colonies in 8-fr. hive, \$5.50 with queen.

Westwood Red-clover Queens

A New York customer writes, "I have tried queens from a good many breeders, but yours are far ahead of them all." Nuclei and full colonies a specialty. Price list on application. HENRY SHAFFER 2860 Harrison Ave. St. L. CincInnatI.O

GET YOUR QUEENS DIRECT FROM ITALY

MAY to SEPTEMBER.—Tested, \$2.60; Champion Layers, \$4.00. Dead queens replaced if box is returned unused. Discount to dealers or for quantities. Beautiful unsolicited testimonials. Honest dealing. For further particulars write to

MALAN BROTHERS

Queen-breeders, Luserna, San Giovanni, Italy

Golden and Red-clover Italian Queens

My queens are large and prolific. Their workers are hardy and good honey-gatherers. Give them a trial. Untested, one, \$1.00; six, \$5.00. Select untested, one, \$1.25; six, \$6.50. Select tested, \$2.00 each. All orders filled in rotation.

No nuclei or colonies for sale this season.
WM. A. SHUFF, 4426 Osage Ave., Philadelphia, Pa.

CALIFORNIA : : : :

We have combined our forces and energies, and are ready to mail queens from our stock which has produced results in recent honey-flow. Now is an excellent time to overhaul and requeen your bees.

Untested queens . . . \$1.00; six, \$5.00; dozen, \$9.00
Tested queens . . . \$2.00; six, \$10.00; dozen, \$18.00

We raise both strains of Italians. Our race of Goldens are unsurpassed for beauty, gentleness, and productiveness. Years of experience in honey-production and queen-rearing, combined with all the latest improved methods, warrants our assertions. Send for circular.

MERCER & WURTH, VENTURA, CALIF.
Queen Specialists

IMPROVE your STOCK

by introducing some of our Famous Long-tongued Italian Red-clover Honey-queens. We have been breeders for 23 years, and have developed a strain of bees that some seasons produce nearly 100 lbs. of surplus per colony from red-clover alone.

Untested queens from June to October, 75 cts. each; tested, \$1.25 each; fine breeders, \$10.00 each. Satisfaction guaranteed in every respect.

FRED LEININGER & SON, DELPHOS, OHIO

ITALIAN QUEENS

Good leather-colored queens bred for business—no disease; prompt shipment, extra good stock. June, 90c; six for \$4.75; 20 or more at 60c each, later less. Satisfaction, or money back.

S. F. TRECO, SWEDONA, ILL.

PHARR'S GOLDENS

Took first prize at three exhibits in 1907. We also breed Carniolans, three-banded Italians, and Caucasians, bred in separate yards and from the best breeders obtainable; guarantee safe delivery and fair treatment. Untested, \$1; tested, \$1.25. Address New Century Queen-rearing Co., Bercail, Tex. John W. Pharr, Prop

Swarthmore's Pedigreed Goldens

Swarthmore Apiaries, Swarthmore, Pa

QUEENS!

And nothing but Italians. An improved superior strain is what QUIRIN-THE-QUEEN-BREEDER raises. Stock is Northern-bred and hardy. We winter our five yards on summer stands with practically no loss. Some of the largest honey-producers of the West started with our stock. Free circular and testimonials.

Prices of Queens after July 1	1	6	12
Select queens	\$.75	\$4.00	\$7.00
Tested queens	1.00	5.00	9.00
Select tested queens . . .	1.50	8.00	15.00
Breeders	3.00	15.00	
Golden five-band breeders .	5.00		
Two-comb nuclei, no queen	2.25	12.00	22.00
Three-comb nuclei, no queen	3.25	18.00	32.00
Full colonies on 8 frames .	5.00	25.00	

QUEENS NOW GO BY RETURN MAIL

Safe arrival and pure mating guaranteed. We employ 400 to 500 swarms. Can furnish bees on L. or Danz. frames. Add price of whatever queen is wanted to nuclei or colony. No order too large, and none too small. Over twenty years a queen-breeder.

Address all Orders to

Quirin - the - Queen - Breeder
Bellevue, Ohio

Swarthmore's Pedigreed Goldens

Swarthmore Apiaries, Swarthmore, Pa

CHOICE QUEENS

Golden and Red-clover Italians and Gray Carniolans

Select untested, 1, 75 c.; 6, \$4.00; 12, \$7.50
Tested, . . . 1, \$1.00; 6, 5.50; 12, \$10.00
Select tested and breeders, . . \$2 to \$4 each

Chas. Koeppen, - Fredericksburg, Va.

Queens of Moore's Strain of Italians

Produce workers that fill the supers, and are not inclined to swarm. They have won a world-wide reputation for honey-gathering, hardness, gentleness, etc.

Mr. W. Z. Hutchinson, editor of the *Bee-kee pers' Review*, Flint, Mich., says, "As workers, I have never seen them equaled. They seem possessed of a steady, quiet determination that enables them to lay up surplus ahead of others. Easier bees to handle I have never seen." My queens are all bred from my best long-tongued three-banded red-clover stock (no other race bred in my apiaries), and the cells are built in strong colonies well supplied with young bees.

PRICES: Untested queens, \$1.00 each; six, \$5.00; dozen, \$9.00. Select untested, \$1.25 each; six, \$6.00; dozen, \$11.00. Select tested, \$2; extra select tested, \$3; breeders, \$10.

I am now sending queens by return mail.

Safe arrival and satisfaction guaranteed. Descriptive circular free. Address
J. P. Moore, queen-breeder, Rt. 1, Morgan, Ky.

GOLDEN - ADEL - QUEENS

Golden Italian and Leather-colored Italian, Imported Carniolan, and Caucasian queens. A full line of bee-keepers' supplies. Send for price list. Address

Chas. Mondeng, 160 Newton Av. N., Minneapolis, Minn

W.H.Laws is again on hand with his famous stock of bees and queens for the season of 1909.

Fine well-bred queens are his specialty; and in all the queens mailed during the past 18 years there is not a displeased customer that I know of. On the other hand, letters of praise come from every source. Mr. Wm. Hughes, of Washington, D. C., writes that he has been handling queens for the past twenty years, and he has never found any that equal or please him so well as the two dozen he bought of me last season. I can and do mail queens every month in the year, California and Cuba taking over 100 in the past month of December. I will mail queens from now on at the one price of \$1.00 each or 6 for \$5.00. Breeding queens, each, \$5.00. Write for prices on quantity lots. Address **W. H. LAWS**, Beeville, Bee County, Texas.

500 Golden and Red-clover Queens

ready to send by return mail. My queens can not be beat. Untested, 75c each; 6 for \$4.75; 12 for \$8.50. Tested, \$1.00; 6 for \$5.00; 12 for \$10.

DANIEL WURTH, FAYETTEVILLE, ARK.
628 Leverett Street

Queens that'll Convince You

that my famous Red-clovers and Goldens are superior to all. Untested, 50 cts.; select untested, 75 cts. tested, \$1.00; nuclei, \$1.00 per frame without queen.

H. A. ROSS, 1709 Upper Second Street, Evansville, Indiana

MILLER'S SUPERIOR ITALIAN QUEENS

By return mail after June 1, or your money back; Northern bred from best red-clover working strains in U. S. No better hustlers; gentle, and winter excellent. Untested, from my three-banded Superior Breeders, \$1.00; six, \$5.00; 12, \$9.00. After July 1, 75c; six, \$4.00; 12, \$7.50. Special prices on 50 or more. Safe arrival and satisfaction guaranteed. Circular free.

ISAAC F. MILLER, Reynoldsville, Pa.

Golden Adel Queens

now going by return mail. Large, yellow, vigorous queens that produce bees that fill the supers. Join the crowd and buy Adels.

Select queens.....	1.00	6	12
Extra-select queens.....	1.50	8.00	15.00

Breeders..... \$3.00 to \$5.00 each.

Send 10c for sample cage of Adels and be convinced. Circular free. Also red-clover Italians at same price.

J. R. McCorkle, Wingate, Ind.

Warranted Queens

75 cts.; dozen, \$7.00. Golden strain. Mailed promptly, or order back at once if you say so. Have pleased customers for 18 years,

J. B. Case, Port Orange, Fla.

ITALIAN QUEENS BY RETURN MAIL

Réd-clover and Goldens, 60 cts. each; guaranteed, 90 cts.; tested, \$1.15. See list. Leaflet "How to Introduce Queens," 15c; "Rapid Increase," 15c; copy of both, 25c.

E. MOTT, GLENWOOD, MICHIGAN

QUEENS

of the Robey strain of 3-banded Italians during the season of 1909. Warranted queens, 75c each; \$4.25 per 6; \$8 per dozen. Tested queens, \$1 each. Satisfaction or money refunded.

• Swarthmore's Pedigreed Goldens

Swarthmore Apiaries, Swarthmore, Pa

Classified Advertisements

Notices will be inserted in these classified columns at 25 cents per line. Advertisements intended for this department can not be less than two lines, and should not exceed five lines, and you must say you want your advertisement in the classified columns or we will not be responsible for errors.

Honey and Wax for Sale

FOR SALE.—Our new crop of clover honey, both comb and extracted; will be ready for the market about July 25; also raspberry extracted. State quantity and kind wanted, and get prices. We are specialists; you get the very best by buying of us.

E. D. TOWNSEND & SONS, Remus, Mich.

FOR SALE.—Clover and raspberry honey mixed in new 60-lb. cans. Well ripened and of fine flavor. Sample, 10 cts. Price of sample may be deducted from order.

JAMES MCNEILL, Hudson, N. Y.

HONEY FOR SALE by members of the Michigan Bee-keepers Association. For free annual booklet giving names and addresses of members address the Secretary, E. B. TYRREL, 238 Melbourne Ave., Detroit, Mich.

FOR SALE.—Light extracted honey, cans and barrels; 7 to 8½ cts. Sample, 10 cts.

STRINGHAM, 105 Park Place, New York.

FOR SALE.—Comb honey in car lots or less.
J. E. PRYOR, Plateau City, Colorado.

Honey and Wax Wanted

WANTED.—Comb, extracted honey, and beeswax. State price, kind, and quantity.

R. A. BURNETT, 199 South Water St., Chicago, Ill.

Poultry

FOR SALE.—R. C. Brown Leghorn eggs, 75 cts. per 15; \$4.00 per 100; also purely mated Italian queens—great honey-gatherers. Untested, 60 cts. each.

GEO. J. FRIESS, Route 6, Hudson, Mich.

A. I. Root's Bee-goods, Poultry-supplies, Seeds, etc.
STAPLER'S, 412-414 Ferry St., Pittsburgh, Pa.

Situation Wanted

WANTED.—By single man with several years' experience with bees in Ontario, a position as bee-keeper or book-keeper in the Western States or Western Canada. I do not use tobacco or whisky. State wages.
431 Third St., Brandon, Manitoba.

Wants and Exchanges

WANTED.—Refuse from the wax-extractor, or slumgum. State quantity and price. OREL L. HERSHISER,
301 Huntington Ave., Buffalo, N. Y.

For Sale

FOR SALE.—One Sprague damper and valve-regulator for regulating the temperature of your house; adapted for steam, hot water, furnace, natural gas, or stove. Manufacturer's price, \$30.00. I have one to spare at \$16.00, or will trade for honey or wax.

A. L. BOYDEN, Medina, Ohio.

DO YOU LOVE FLOWERS?—Send now for a button-hole bouquet-holder, gold-mounted; will keep flowers fresh for hours; quickly attached to coat, dress, or any part of clothing. Money cheerfully refunded if not satisfied. Sent anywhere postpaid for 50 cents.

A. J. WRIGHT, Bradford, Steuben Co., N. Y.

FOR SALE.—Gasoline-engine; Foos 22 horse-power; run only 3 months; at half price; good as ever. A snap to party needing the power.

E. C. MILLER, E. Claridon, Ohio.

Also one 18-inch French burr feed-mill.

FOR SALE.—A full line of bee-keepers' supplies; also Italian bees and honey a specialty. Write for catalog and particulars.

THE PENN CO., successors to W. P. Smith, Penn, Miss.

FOR SALE.—Why did you get so many stings in the face last season? Because you did not have on one of the Alexander wire bee-veils at 60 cts. each.

FRANK C. ALEXANDER, Delanson, N. Y.

FOR SALE.—One wire-screen cage for live-bee demonstration; used at four fairs; price \$7.50 f. o. b. cars; also 6 1½-story one-frame observatory hives with covers, used at two fairs, price \$1.90 each.

M. H. HUNT & SON, Lansing, Mich.

1300 wood separators, 13½ x 3½; never been unpacked; \$6.00 for the lot; also fine violin, cheap.

LEON F. HOWDEN, Fillmore, N. Y.

FOR SALE OR EXCHANGE.—Bee-hives, for White Plymouth Rocks or gun.

F. R. DAVENPORT, Plainwelt, Mich. Rt. 3.

FOR SALE.—A No. 5 Oliver typewriter, latest model; used only 7 months, and very little at that.

A. H. KANAGY, Kishacoquillas, Pa.

For best extension ladder at factory prices write to
JOHN J. POTTER, 14 Mill St., Binghamton, N. Y.

FOR SALE.—Bee-supplies at factory prices.
D. COOLEY, Kendall, Mich.

FOR SALE.—\$40.00 bicycle, with coaster, etc., good as new. Price \$20.00. J. R. McCORKLE, Wingate, Ind.

Pianos

FOR SALE.—Genuine bargains in high-grade upright pianos. Slightly used instruments: 12 Steinways, \$350 up; 6 Webers from \$250 up; 9 Krakauers from \$250 up; 7 Knabes from \$250 up; 3 Chickering from \$250 up; also ordinary second-hand. Uprights \$75.00 up; also very fine Parlor Grand pianos at about half. Write for full particulars. Cash or easy monthly payments.

LYON & Healy, 62 Adams St., Chicago, Ill.
We ship everywhere on approval.

Real Estate

Let me sell your apiary. Sell for cash, or exchange for farm or city property. Write full description and lowest price. Send for free circulars if in market for a farm in Iowa's corn belt. I sell bee-farms, corn lands, and northwestern lands.

V. C. GULLICKSON, Real-estate Broker, Northwood, Ia.

FOR SALE.—160 acres of land, 4 acres fruit and berries; house and barn; 250 stands of bees. Price \$2500.

A. BRAUHARD, San Luis Obispo, Cal.

Bees and Queens

Missouri-bred Italian queens; great hustlers in sections; cap white, and gentle; cells built in strong colonies, mated from two-frame L. nuclei. Select untested, \$1.00; tested, \$1.50; breeders, \$3.00. Two L. frame nucleus with laying queen, \$3.00; ten for \$25.00; virgins, 50 cts. each; \$5.00 per dozen. I guarantee satisfaction and safe arrival. L. E. ALTWEIN, St. Joseph, Mo.

FOR SALE.—Fine young untested queens, at 65 cents each in any quantity. Also full colonies bees in 8-frame body, with a fine young untested queen of best breeding queen obtainable, \$6.00; 5½-in. depth 8-frame nuclei with queen, \$3.75. Each, \$4.00.

A. H. KANAGY, Kishacoquillas, Pa.
Make all money orders payable at Belleville, Pa.
Clipping queens' wings, 10 cents each extra.

FOR SALE.—Moore's strain and golden Italian queens, untested, \$1.00; six, \$5.00; twelve, \$8.00. Carniolan, Banat, and Caucasian queens, select, \$1.25; six, \$6.00; twelve, \$10.00. Tested, any kind, \$1.50; six, \$8.00. Choice breeders, \$3.00. Circular free.

W. H. RAILS, Orange, Cal.

Italian queens direct from Italy. Extensive apiarist. E. Penna, Bologna, Italy. I send queens from May 15 to September 30. In Italy we have only Italian bees, so all my queens are warranted quite pure and rightly mated. One fertile queen, \$1.30; twelve, \$12.00; one breeding queen, \$3.00. Cash with orders. Queens sent postpaid; safe arrival guaranteed.

Simmins' pedigree Italian queens—see cover, May 15th issue, full-page copy from our register. Nothing like it in the bee world.

SIMMINS, Queenland, Heathfield, Sussex, England.

5000 three-band Italian queens ready to mail March 1. Untested, 75 cts.; tested, \$1.00; breeders, \$5.00. Ask for prices in large quantities.

W. J. LITTLEFIELD,
Route 3. Little Rock, Ark.

FOR SALE.—1000 colonies of bees with fixtures; run principally for extracted honey.

DR. GEO. D. MITCHELL & CO.,
340 Fourth Street, Ogden, Utah.

FOR SALE.—Three-banded Italian queens by return mail, reared from the best red-clover stock; untested, one, 75 cts.; six, \$4.00.

WM. I. F. HOFFA, Temple, Pa. R. 1.

FOR SALE.—Red-clover and golden Italian queens, warranted purely mated, 75 cts.; full colonies, standard eight-frame hive, \$3.00.

F. M. MAYBERRY, Lederach, Pa.

POUND BEES, nuclei, full colonies, from Mechanic Falls branch. Prices on application.

MASON, Mechanic Falls, Me.

FOR SALE.—Italian queens, hustlers; untested, 75 cts.; select, \$1.00; tested, \$1.25.

MRS. J. W. BACON, Waterloo, N. Y.

FOR SALE.—High-grade Italian queens, tested, \$1.00; two-frame nucleus with queen, \$3.00.

DR. S. T. HOOKEY, 4712 Oak St., Kansas City, Mo.

FOR SALE.—Misinated Italian queens, 30 cts. each. S. C. Buff Leghorn cockerels, \$1.00 each.

JUL. BUEGELER, New Ulm, Texas.

FOR SALE.—Italian queens, hustlers; untested, 65 cts.; select, \$1.00; tested, \$1.25.

MRS. J. W. BACON, Waterloo, N. Y.

FOR SALE.—Italian queens from a strain of bees nearly immune to bee disease, \$9.00 per dozen.

CHARLES STEWART, Box 22, Johnstown, N. Y.

Extra-fine queens of the red-clover strain, bred by the originator. Fine queens for breeders' use, a specialty.

F. J. WARDELL, Uhrichsville, Ohio.

FOR SALE.—1000 fine young clover queens, golden and three-banded. Untested, 65 cts.; select, 75 cts.; tested, \$1.00. Also bee-supplies.

G. ROUTZAHN, Biglerville, Pa.

FOR SALE.—Hardy goldens and Adel queens; Italians; fine honey-gatherers. Virgins, 40 cts.; untested, 75 cts.; tested, \$1.50. EDWA. REDDOUT, Baldwinsville, N. Y.

FOR SALE.—Fine golden Italian queens, untested, 50 cts.; tested, \$1.00.

D. T. GASTER,
Rt. 2, Randleman, N. C.

FOR SALE.—Northern-bred red-clover queens. Untested, 75 cents; tested, \$1.00.

E. S. WATSON, Madison, Maine. R. F. D. No. 2.

Italian queens; untested, 75 cts.; tested, \$1.00; two-frame nuclei, \$2.50.

E. M. COLLYER, 75 Broadway, Ossining, N. Y.

A superior strain of Minnesota-bred Italian queens. Untested, \$1.00.

A. T. DOCKHAM, Rt. 1, Eagle Bend, Minn.

FOR SALE.—Italian queens; untested, 50 cts.; select, 75 cts.; tested, \$1.00.

ROBT. B. SPICER, Wharton, N. J.

FOR SALE.—Good Italian queens, each, 75 cts., 6 for \$4.00; 12 for \$9.00.

D. J. BLOCHER, Pearl City, Ill.

FOR SALE.—Golden-all-over queens, and bee-keepers' supplies.

T. L. McMURRAY, Silverton, W. Va.

FOR SALE.—Black and misinated queens, 15 cts. each.

B. F. AVERILL, Howardsville, Va.

FOR SALE.—Fine Golden Italian queens, 50 cts. each.

Rt. 1. J. F. MICHAEL, Winchester, Ind.

Bee-keepers' Directory

Bee-keepers' Supply Co., Lincoln, Neb. We buy car lots of Root's goods. Save freight. Write.

Italian queens from direct imported mothers, red-clover strain, \$1.00. Circular.

A. W. YATES, 3 Chapman St., Hartford, Conn.

ITALIAN BEES, queens, honey, and Root's bee-keepers' supplies.

ALSO APIARY, El Toro, Cal.

Golden yellow Italian queens my specialty; 1909 price list ready. Safe introducing directions.

E. E. LAWRENCE, Doniphan, Mo.

CARNIOLAN, BANAT, and CAUCASIAN queens. Order from original importer, FRANK BENTON, box 17, Washington, D. C.

Well-bred bees and queens. Hives and supplies.

J. H. M. COOK, 70 Cortlandt St., New York City.

For bee-smoker and honey-knife circular send card to

T. F. BINGHAM, Farwell, Mich.

Golden and red-clover Italian queens. See my other adv't in this issue.

WM. A. SHUFF,
4426 Osage Ave., Philadelphia.

For your address on a postal card I will send you valuable information pertaining to queen culture. Write to-day.

J. E. HAND, Birmingham, Ohio.

FOR SALE.—High-grade red-clover and Golden queens. Safe arrival and satisfaction guaranteed. One, 75 cts.; six, \$4.00; dozen, \$7.50.

SIRES BROS. & CO., North Yakima, Wash.

QUEENS.—Improved red-clover Italians, bred for business, June 1 to Nov. 15, untested queens, 75 cts.; select, \$1.00; tested, \$1.25 each. Safe arrival and satisfaction guaranteed.

H. C. CLEMONS, Boyd, Ky.

Quirin's famous improved Italian queens ready in April; nuclei and colonies about May 1. My stock is northern bred, and hardy. Five yards wintered on summer stands without a single loss in 1903; 22 years a breeder. For prices see large ad. in this issue.

QUIRIN-THE-QUEEN-BREEDER, Bellevue, O.

SPECIAL NOTICES

BY OUR BUSINESS MANAGER

QUEENS.

The queens we are now sending out from our yards here are better than we have ever been able to supply. Our untested at \$1, and select untested at \$1.25, are especially fine queens, and the best we have ever furnished for the money. Our stock is now coming in so plentifully that we are able to fill large orders by return mail. If you want a hundred queens at a time, we can get them to you at once. See our large advertisement on the inside front cover page.

SPECIAL PRICES TO CLOSE OUT HONEY-EXTRACTORS.

We have on hand at various points a number of extractors without ball bearings or slip gear. In other respects they are up to present standard. We offer them, to close out, at special prices as follows:

AT MECHANIC FALLS, MAINE.

Two No. 4 Novice for short frames up to 13 in. deep and 13 $\frac{1}{2}$ in. wide. Price \$7.50 each.

Two No. 15 Cowan for L. frame. Price \$11.00.

AT WASHINGTON, D. C.

Three No. 5 Novice for L. frame. Price \$8.00.

Four No. 15 Cowan for L. frame. Price \$11.00.

Five No. 15 Root automatic for L. frame. Price \$12.50.

AT SYRACUSE, N. Y.

Three No. 5 Novice for L. frame. Price \$8.00.

Six No. 15 Cowan for L. frame. Price \$11.00.

Two No. 18 Cowan with comb-pockets, 12 $\frac{1}{2}$ in., \$13.00.

AT NEW YORK CITY.

One No. 15 Cowan for L. frames. Price \$11.00.

Two No. 17 Cowan with 12-in. comb-pockets. Price \$12.00.

One No. 18 Cowan with 12 $\frac{1}{2}$ -in. comb-pockets. Price \$13.00.

AT PHILADELPHIA.

One No. 4 Novice for short frames. Price \$7.50.

Two No. 10 Novice for large frames. Price \$8.50.

Three No. 17 Cowan with 12-in. comb-pockets. Price \$12.00.

One No. 17 Root automatic with 12-in. comb-pockets. Price \$13.50.

Three No. 18 Cowan with 12 $\frac{1}{2}$ -in. comb-pockets. Price \$13.00.

Two No. 25 four-frame Root automatic for L. frames. Price \$22.00.

AT CHICAGO.

Ten No. 4 Novice for short frames. Price \$7.50.

Two No. 5 Novice for L. frames. Price \$8.00.

Three No. 10 Novice for large frames. Price \$8.50.

One No. 17 Cowan with 12-inch comb-pockets. Price \$12.00.

One No. 20 Cowan with 13 $\frac{1}{2}$ -in. comb-buckets. Price \$14.00.

Four No. 15 Root automatic for L. frame. Price \$12.50.

Three No. 17 Root automatic with 12-in. comb-pockets. Price \$13.50.

Two No. 20 Root automatic with 13 $\frac{1}{2}$ -in. comb-pockets. Price \$15.50.

Seven No. 25 four-frame Root automatic for Langstroth frames. Price \$22.00.

AT MEDINA, O.

Ten No. 5 Novice for L. frame. Price \$8.00.

Eight No. 17 Cowan with 12-in. comb-pockets. Price \$12.00.

Two No. 17 Root automatic with 12-in. comb-pockets. Price \$13.50.

Five No. 18 Cowan with 12 $\frac{1}{2}$ -inch comb-pockets. Price \$13.00.

One No. 18 Root automatic with 12 $\frac{1}{2}$ -in. comb-pockets. Price \$14.50.

You will observe that these prices are from \$1.50 to \$3.00 less than the price of the regular machine as now made.

SHIPPING-CASES.

There is also a stock of shipping-cases without the latest features of sliding cover and corrugated-paper pad for bottom. We offer these, to close out, at the following special prices from the points named. In a few cases there are some other items listed at special close-out prices. The prices here given are for 100.

AT CHICAGO.

	PER 100
200 12-in. 4-row with 3-in. glass for 24 4 $\frac{1}{4}$ sec's,	\$16.50.
750 10-in. 4-row with 3-in. glass for 4 $\frac{1}{4}$ sec's,	15.50.
200 10-in. 4-row with 2-in. glass for 4 $\frac{1}{4}$ sec's,	15.00.
500 18-in. 2-row with 2-in. glass for 16 4 $\frac{1}{4}$ sec's,	11.00.
600 10-in. 2-row with 3-in. glass for 4 $\frac{1}{4}$ sec's,	9.50.
200 10-in. 2-row with 2-in. glass for 4 $\frac{1}{4}$ sec's,	9.00.
300 8-in. 3-row with 3-in. glass for 4 $\frac{1}{4}$ sec's,	10.50.
200 6 $\frac{1}{4}$ " 3-row with 3-in. glass for 4 $\frac{1}{4}$ sec's,	10.00.
200 6 $\frac{1}{4}$ " 3-row with 3-in. glass for Ideal sec's,	10.50.

AT NEW YORK CITY.

	PER 100
50 12-in. 4-row with 3-in. glass for 24 4 $\frac{1}{4}$ sec's,	\$16.50.
120 10-in. 4-row with 3-in. glass for 24 4 $\frac{1}{4}$ sec's,	15.50.
100 12-in. 2-row, no glass, for 12 4 $\frac{1}{4}$ inch sec's,	9.00.
175 8-in. 3-row with 3-in. glass for 4 $\frac{1}{4}$ sec's,	10.50.
125 6 $\frac{1}{4}$ " 3-row with 3-in. glass for 4 $\frac{1}{4}$ sec's,	10.00.

	PER 100
260 7 $\frac{1}{2}$ -in. 4-row with 3-in. glass for 20 Dan. s.,	\$15.00.
250 7 $\frac{1}{2}$ -in. 3-row with 3-in. glass for 15 Dan. s.,	11.00.

AT PHILADELPHIA.

	PER 100
950 10-in. 4-row with 3-in. glass for 4 $\frac{1}{4}$ sec's,	\$15.50.
140 10-in. 4-row with 2-in. glass for 4 $\frac{1}{4}$ sec's,	15.00.
400 12-in. 2-row with 2-in. glass for 4 $\frac{1}{4}$ sec's,	9.50.
100 12-in. 2-row with 3-in. glass for 4 $\frac{1}{4}$ sec's,	10.00.
350 10-in. 2-row with 3-in. glass for 4 $\frac{1}{4}$ sec's,	9.50.
200 10-in. 2-row with 2-in. glass for 4 $\frac{1}{4}$ sec's,	9.00.
180 16-in. 2-row with 3-in. glass for 4 $\frac{1}{4}$ sec's,	11.00.
40 16-in. 2-row with 2-in. glass for 4 $\frac{1}{4}$ sec's,	10.50.
50 6 $\frac{1}{4}$ " 3-row with 2-in. glass for 4 $\frac{1}{4}$ sec's,	9.00.
150 9 $\frac{1}{4}$ " 4-row with 3-in. glass for 24 Ideal "	14.50.
300 6 $\frac{1}{4}$ " 3-row with 3-in. glass for 12 Ideal "	10.00.
100 7 $\frac{1}{2}$ " 3-row with 3-in. glass for 15 Dan. "	11.00.

AT WASHINGTON, D. C.

	PER 100
250 12-in. 4-row with 3-in. glass for 4 $\frac{1}{4}$ sec's,	\$16.00.
175 10-in. 4-row with 3-in. glass for 4 $\frac{1}{4}$ sec's,	15.50.
100 12-in. 2-row with 3-in. glass for 4 $\frac{1}{4}$ sec's,	10.00.
50 8-in. 3-row with 3-in. glass for 4 $\frac{1}{4}$ sec's,	10.50.
100 9 $\frac{1}{4}$ " 4-row with 3-in. glass for 24 Ideal "	14.50.
160 7 $\frac{1}{2}$ " 3-row with 3-in. glass for 15 Dan. "	11.00.

AT MECHANIC FALLS, ME.

	PER 100
250 12-in. 4-row with 3-in. glass for 4 $\frac{1}{4}$ sec's,	\$16.50.
200 7 $\frac{1}{2}$ " 4-row with 3-in. glass for 20 Dan. "	15.00.
50 7 $\frac{1}{2}$ " 3-row with 3-in. glass for 15 Dan. "	11.00.
150 6 $\frac{1}{4}$ " 3-row with 3-in. glass for 12 Ideal "	10.00.
100 No. 9 8-frame slatted wood-zinc honey-boards, 10, \$2.00.	
50 No. 10 10-frame slatted wood-zinc honey-boards, 10, \$2.20.	
20 zinc-front Alley traps at 40 cts.; 10 for \$3.50.	
50 zinc entrance-guards, 8-frame, 10, 80 cts.	
50 zinc entrance-guards, 15-frame, 10, 80 cts.	

AT SYRACUSE, N. Y.

	PER 100
49 cases, of 2 dozen each, 18-oz. Simplex jars, \$1.10 per case, 10 cases or more at \$1.00.	
60 3-qt. tin pails with bails and covers—\$4.00 for lot.	

AT MEDINA, O.

	PER 100
300 12-in. 4-row with 3-in. glass for 24 4 $\frac{1}{4}$ sec's,	\$16.50.
50 10-in. 4-row with 3-in. glass for 24 4 $\frac{1}{4}$ sec's,	15.50.
250 12-in. 2-row with 3-in. glass for 12 4 $\frac{1}{4}$ sec's,	10.00.
150 12-in. 2-row with 2-in. glass for 12 4 $\frac{1}{4}$ sec's,	9.50.
300 12-in. 2-row, no glass, for 12 4 $\frac{1}{4}$ sections,	9.00.
150 10-in. 2-row with 3-in. glass for 12 4 $\frac{1}{4}$ sec's,	9.50.
200 16-in. 2-row with 2-in. glass for 12 4 $\frac{1}{4}$ sec's,	9.00.
300 16-in. 2-row with 3-in. glass for 16 4 $\frac{1}{4}$ sec's,	11.00.
250 8-in. 3-row with 2-in. glass for 12 4 $\frac{1}{4}$ sec's,	10.00.
150 9 $\frac{1}{4}$ " 4-row with 3-in. glass for 24 Ideal "	14.50.
250 6 $\frac{1}{4}$ " 3-row with 3-in. glass for 12 " sec's,	10.00.

The above are all packed 50 in a crate. The following are packed 10 in a crate.

	CRATE.
100 16-in. 2-row with 3-in. glass for 16 4 $\frac{1}{4}$ sec's,	\$1.20.
100 16-in. 2-row with 2-in. glass for 16 4 $\frac{1}{4}$ sec's,	1.10.

State Fair Premium Lists.

The Wisconsin State Fair will be held at Milwaukee, Sept. 13 to 17. Premiums are open to all, but the exhibit must be the products of the bees of exhibitor.
Most attractive and finished display of comb honey..... \$12.00 \$10.00 \$7.00 \$4.00
Case white comb honey, 12 to 24 lbs..... 8.00 6.00 4.00 2.00
Case amber comb honey, 12 to 24 lbs..... 8.00 6.00 4.00 2.00
Display of honey in extracting-frames..... 5.00 3.50 2.50 1.00
Most attractive and finished display of extracted honey..... 12.00 10.00 7.00 4.00
Case of extracted white-clover 12 lbs. or more, in glass labeled..... 8.00 6.00 4.00 2.00
Case extracted basswood or Linden honey, 12 lbs. or more, in glass, labeled..... 8.00 6.00 4.00 2.00
Case of other white extracted honey, 12 lbs. or more, in glass, labeled..... 8.00 6.00 4.00 2.00
Case extracted amber honey, 12 lbs. or more, in glass, lab'd..... 8.00 6.00 4.00 2.00
Display extracted honey, granulated or candied..... 8.00 6.00 4.00 2.00
Beeswax, best 10 lbs. or more... 6.00 4.00 3.00 2.00
Honey vinegar, not less than 1 gallon, in glass..... 4.00 3.00 2.00 1.00
Nucleus of golden-yellow Italian bees and queen..... 8.00 6.00 4.00 2.00
Nucleus of dark or leather-colored bees and queen..... 8.00 6.00 4.00 2.00
Nucleus of Carniolan bees and queen..... 8.00 6.00 4.00 2.00
Largest, best, and most attractive exhibition in this department, all things considered..... 15.00 12.00 9.00 6.00

FARMERS' EXHIBIT.

Exhibitors in numbers 2 to 7, inclusive, can not enter exhibits in "Farmers' Exhibit."
Case white comb honey, 12 to 24 lbs..... 3.00 2.50 2.00 1.00
Case amber comb honey, 12 to 24 lbs..... 3.00 2.50 2.00 1.00
Case dark comb honey, 12 to 24 lbs..... 3.00 2.50 2.00 1.00
Case white extracted honey, 12 lbs. or more, in glass..... 3.00 2.50 2.00 1.00
Case amber extracted honey, 12 lbs. or more, in glass..... 3.00 2.50 2.00 1.00
Case dark extracted honey, 12 lbs. or more, in glass..... 3.00 2.50 2.00 1.00
Largest, best, and most attractive exhibition in this department—all things considered..... 8.00 6.00 4.00 2.00
Most original and attractive design in comb honey..... 4.00 3.00 2.00 1.00
Most original and attractive design in beeswax..... 4.00 3.00 2.00 1.00
Candles made with honey—quantity, quality, and display considered..... 5.00 3.00 2.00 1.00
Competitive live-bee demonstration, open to all, each contestant to furnish his own demonstration cage..... 20.00 15.00 10.00 5.00

N. E. FRANCE, Sup't, Platteville.

The State Fair of Texas will be held at Dallas, Oct. 16 to 31. All entries in the bee department will be subject to the rules and regulations in the catalog.

Where there is no competition, but one award will be made in one class of entry.

No premiums will be awarded when the exhibit is unworthy, although there be no competition.

All articles entered for competition must be delivered at the fairgrounds on or before Oct. 16.

Address all correspondence regarding space, exhibits, etc., to Louis H. Scholl, New Braunfels, Texas. Golden Italian bees and queen in single-comb observatory hive..... \$5 \$3

Three-banded Italian bees and queen in single-comb observatory hive..... 5 3

Carniolan bees and queen in single-comb observatory hive..... 5 3

Caucasian bees and queen in single-comb observatory hive..... 5 3

Cyprian bees and queen in single-comb observatory hive..... 5 3

Holy Land bees and queen in single-comb observatory hive.....	5	3
Banat bees and queen in single-comb observatory hive.....	5	3
Black bees and queen in single-comb observatory hive.....	5	5
Best display of bumble-bees.....	5	3
Best display of ground-bees.....	5	3
Best and largest display of bees of various races in observatory hives.....	10	6
Best and largest display of queens of various races in mailing-cages.....	5	3
Best case, 12 lbs. or more, white section comb honey.....	5	3
Best case of light-amber section comb honey.....	5	3
Best and largest display of section comb honey.....	8	5
Best 12 lbs. white bulk comb honey in friction-top pails.....	5	3
Best 6 lbs. white bulk comb honey in friction-top pails.....	3	2
Best 3 lbs. white bulk comb honey in friction-top pails.....	3	2
Best display of bulk comb honey.....	10	6
Best dozen jars white extracted honey.....	3	2
Best dozen jars light-amber extracted honey.....	3	2
Best display granulated extracted honey.....	5	3
Best and largest display of extracted honey.....	10	6
Best sample cake of bright yellow beeswax, not less than 2 lbs.....	5	3
Best display of special designs in beeswax.....	5	3
Best and largest display of beeswax.....	8	5
Best display of fruit preserved in honey.....	5	3
Best honey vinegar, with recipe.....	3	2
Best collection of Texas honey-yielding, pressed and mounted.....	5	3
Best instructive display in apriarian products, and of the various uses made of honey and beeswax.....	20	10
Best and largest display of bee-keepers' supplies.....		diploma.

The Illinois State Fair will be held at Springfield, October 1 to 9.

All articles must be entered, and cards obtained from the secretary before space will be assigned.

Entries should be made on or before September 29, at 6 P.M., by application to the secretary at Springfield, who will furnish all necessary blanks.

Articles in this class must be in place not later than 10 o'clock A.M., October 4, 1909.

Articles for the fair should be billed to the "State Fair Grounds, Springfield," with charges prepaid.

Awards will be made by the single-judge system.

Judges are instructed that, if they have good reason to believe that an exhibitor, by false entry or otherwise, attempts to deceive and obtain an award by misrepresentation, they shall report the fact at once to the superintendent of the department, who shall report the same to the board, who may expel such exhibitor for fraud for at least two years.

Articles on exhibition can not be removed until the close of the fair.

All goods in this department not claimed the day following the close of the fair will be donated to charity.

Every article entered for competition shall be under the control of the superintendent of the department in which it is entered; but the Board of Agriculture will in no case be responsible for any loss or damage to the same that may occur.

Neither the State Board of Agriculture nor the secretary will be responsible for goods sent to their care; but all goods sent by express, addressed to the owner at fairgrounds, Springfield, Ill., will be delivered on the grounds.

Bees and honey—competition open to the world.

The judges in this lot will be governed by the code of rules adopted by the Illinois State Bee-keepers' Association.

Five hundred pounds only will receive full score for quantity in displays of comb and extracted honey, and 300 pounds only in displays of candied honey; 50 pounds will receive full score for quantity in display of beeswax.

Only one entry will be allowed each exhibitor for any one premium.

Display of comb honey..... \$20 \$15 \$10

Collection of labeled cases containing 12 or more pounds of white honey from different flowers..... 8 5 3

Collection of labeled cases containing 12 or more pounds of amber or dark honey from different flowers..... 8 5 3

Case of white-clover comb honey, 12 to 24 pounds.	4	3	2
Case of sweet-clover comb honey, 12 to 24 pounds.	4	3	2
Case of basswood comb honey, 12 to 24 pounds.	4	3	2
Case of amber comb honey, 12 to 24 pounds.	4	3	2
Display of samples of extracted honey, not less than half-pound each.	5	3	2
Display of extracted honey.	20	15	10
Honey extracting on the grounds.	5	3	2
Frame of comb honey for extracting.	5	3	2
Display of candied honey.	20	15	10
Display of beeswax.	15	10	5
One-frame observatory hive dark Italian bees.	4	3	2
One-frame observatory hive golden Italian bees.	4	3	2
One-frame observatory hive Carniolan bees.	4	3	2
Honey vinegar, one-half gallon, with recipe for making.	4	3	2
Display of designs in honey.	15	12	8
Display of designs in beeswax.	20	12	8
For manipulating a swarm of bees in cage.	15		

W. E. DAVIS, Sup't., Libertyville, Ill.

The Minnesota State Fair will take place Sept. 6 to 11. Competition is open to the world. No entries received after Sept. 2. Extracted honey, other than for display, must be in square 1-lb. bottles. Each entry of candy must consist of not less than twelve different varieties, and must have $\frac{1}{2}$ lb. of each variety. All pastry, cooking, or candies for exhibition must be the work of the exhibitor or family, and be accompanied by a recipe. All candies, pastry, or cooking must be on the fairgrounds, and in place, not later than noon of the second day of the fair. All bees or nuclei for exhibition must be in place by noon of the second day of the fair. Premiums and purses not called for within ninety days will be considered forfeited.

Most attractive and finest display of comb honey..... \$14 \$11 \$8 \$5
 Case white-clover honey, 12 to 24 sections..... 10 7 5 3
 Case basswood (linden) comb honey, 12 to 24 sections..... 10 7 5 3
 Case other white comb honey, 12 to 24 sections..... 10 7 5 3
 Case amber comb honey, 12 to 24 sections..... 10 7 5 3
 Display of comb honey in extracting-frames..... 10 7 5 3
 Most attractive and finest display of extracted honey..... 12 9 7 5
 Case extracted white-clover honey 12 lbs. or more in glass, labeled..... 10 7 5 3
 Case extracted basswood honey, 12 lbs. or more in glass, labeled..... 10 7 5 3
 Case other white extracted honey, 12 lbs. or more in glass, labeled..... 10 7 5 3
 Case extracted amber honey, 12 lbs. or more in glass, labeled..... 10 7 5 3
 Display of extracted honey, granulated..... 10 8 7 5
 Beeswax, best, 10 lbs. or more..... 7 5 4 3
 Best and most attractive design in beeswax.....

Honey vinegar, not less than a gallon, in glass.....
 Nucleus of golden-yellow Italian bees and queen in observatory hive.....
 Nucleus of dark or leather-colored Italian bees and queen in observatory hive.....
 Carniolan bees with queen in observatory hive.....
 Largest and most attractive exhibition in this department, all things considered..... 15 12 9 6
 Exhibits to compete for the following premiums in "Farmers' Collection" are not eligible to exhibit in the general classes.
 White comb honey, 12 to 24 sections..... \$10 \$7 \$5 \$3
 Amber comb honey, 12 to 24 sections..... 10 7 5 3
 White extracted honey, 12 to 24 lbs..... 10 7 5 3
 Amber extracted honey, 12 to 24 lbs..... 10 7 5 3
 Most original and attractive design in comb honey..... 5 3 2
 Best and most attractive display of wax, not less than 12 lbs..... 5 3 2
 The following are open to all:
 Candies made with honey instead of sugar—quantity, quality, and display considered..... 6 4 2

Best display of cooking with honey used in place of sugar for sweetening.....	5	3	2
Apiarian tools and supplies:			
Best hive for comb honey.....	5	3	2
Best hive for extracted honey.....	5	3	2

Best display of apiarian tools and fixtures..... 7 5 2
 Live-bee demonstration:
 The most attractive exhibit of handling bees made by any bee-keepers' association in suitable tent or wire-netting enclosure, said exhibit to be made daily, and as many times daily as is deemed advisable by the superintendent of this department. (Associations competing must bear all the expense of exhibit)..... 40 20
 M. V. FACEY, Sup't., Preston, Minn.

The Colorado Interstate Fair and Exposition will take place at Denver, Sept. 12 to 18.

Entries will close in the apiarian department Sept. 11. Blanks upon which to make the same will be furnished upon application to Sec. G. C. Fuller, Tabor Opera House Building, Denver, with whom all entries are to be filed.

No entry fee will be charged; but the exhibitor is required to purchase an exhibitor's ticket, costing \$2.00, at the time of making entries. This ticket entitles the holder to admission to the grounds each day at the fair. The department will be open for the receipt of exhibits Sept. 10, and all must be in place by 6 P.M. of Sunday, Sept. 12.

No exhibitor will be awarded more than one prize in a division.

The Colorado Honey-producers' Association, 1440 Market St., Denver, will receive and place on exhibit entries shipped to them by parties who will not be in attendance at the fair. The following are premiums:

Italian bees and queen in single-comb observatory hive.....	\$3	\$2
Carniolan bees and queen as above.....	3	2
Caucasian bees and queen as above.....	3	2
Largest display of queens of various races in mailing-cages.....	3	2
Largest and best display of bees of various races in observatory hives.....	5	3
Best manipulation of bees.....	5	3
Best case of white comb honey.....	3	2
Best case of light-amber comb honey.....	3	2
Best and largest display of comb honey.....	3	2
Best display of special designs in comb honey.....	3	2
Best dozen jars of white extracted honey.....	3	2
Best dozen jars of light-amber extracted honey.....	3	2
Best and largest display of extracted honey.....	3	2
Best display of granulated extracted honey.....	3	2
Best ten pounds of yellow beeswax.....	3	2
Best and largest display of beeswax.....	3	2
Best display of special designs in beeswax.....	3	2
Best display of mounted honey-plants.....	3	2
Best display of fruits preserved in honey.....	3	2
Best honey vinegar.....	3	2
Largest and most attractive display in department	10	5

W. L. PORTER, Sup't., 3522 Alcott St., Denver.

The Montana State Fair will take place at Helena, Sept. 27 to Oct. 2.

The awards in the apiarian department are confined to products of Montana. All competitors on honey must produce their own honey.

The points for the judgment of honey are as follows:

Comb—1. Perfection of capping; 2. Evenness of surface; 3. Whiteness of capping; 4. General appearance as to market quality.

Extracted—1. Cleanliness; 2. Clearness; 3. Flavor.

No entries received after Sept. 25.

Alfalfa honey, not less than 5 lbs., crated, in single-comb sections.....	\$3	\$2	\$1
Sweet-clover honey, same conditions.....	3	2	1
Fall honey, same conditions.....	3	2	1
Extracted clover honey, 5 lbs.....	3	2	1
Extracted alfalfa honey, 5 lbs.....	3	2	1
Extracted sweet-clover honey, 5 lbs.....	3	2	1
Extracted alfalfa honey, 5 lbs., to have been stored after Aug. 1.....	3	2	1
Extracted fall sweet-clover honey, 5 lbs., to have been stored after Aug. 1.....	3	2	1
Best display of honey in marketable shape, products of exhibitor's own apiary.....	5	3	2
Display of bees and queens in observatory hive	5	3	2
Best collection of honey-producing plants, giving time of blossoming, with common and proper names.....	4	2	1

MARTIN MARTIN, Sec.

The Indiana State Fair will take place at Indianapolis, Sept. 6 to 10. Entries close Aug. 24.	
Display of comb honey—quality, quantity, and manner of putting up for market considered.....	25 15 8
Display of extracted honey, same conditions.....	25 15 8
Display of beeswax, quantity and quality to be considered.....	10 8 6
Honey vinegar, not less than one gallon, in glass.....	5 3 2
One-frame observatory hive of Italian bees, showing queen, workers, and brood in all stages.....	10 8 6
One-frame observatory hive of foreign bees (other than Italians), showing the queen, workers, and brood in all stages.....	10 8 6
Display of bee-supplies.....	20 10 5
Display of honey, wax, supplies, and other material pertaining to the bee industry... .	20 10 5

J. L. VAN NATTA, Sup't, Lafayette, Ind.

Convention Notices.

The Tennessee Bee-keepers' Association will meet at the Board of Trade Building, Nashville, August 14, at 10 A.M. A good program has been arranged, and a meeting of more than ordinary interest is assured. Among the subjects to be discussed are these: Honey-dew; marketing honey; wax-rendering; bee diseases; value of fair exhibits, etc. All bee-keepers, whether members or not, are invited to be present.

I should like to urge all the bee-keepers of Tennessee to join our association; for with a strong organization we shall be able to accomplish much good for the bee-keeping interests of the State. The membership fee is only 50 cents a year, or \$1.00 a year for membership in both State and National Associations.

Franklin, Tenn.

J. M. BUCHANAN, Sec.

Special Notices by A. I. Root.

RATS AND MICE—ESPECIALLY THE MICE.

After the article on page 386 was in print I discovered that it was not rats that "chawed up" my precious apples, after all. It was mice; but a couple of cheap wire-and-wood mouse-traps that are now on the market wound up the business. Get right at it and catch the varmints some way or other, the first thing you do; then go to work and hunt up the crack or crevice or opening where they get on your premises, and stop it up. Make sure of three things: First, that there is not a rat or a mouse on your premises; 2. That there is not a crack, crevice, nor opening where they can get in after being once chased out; 3. Do not leave any sort of food scattered around for the rats and mice. Do not encourage them nor entice them on your premises. If I mistake not, your chickens will consume profitably every thing that rats and mice will eat. Encourage the chickens, but discourage the rodents.

Since the above was written, our Mr. J. W. Bain, the man who has charge of our apiary, says the best mouse-trap in the world is one called the "Surecatch," and the very best thing to bait it with is bee-candy. Mice are always fond of honey, you know, or any thing else that is sweet; and he says that The A. I. Root Co. could confer no higher favor on bee-keepers than to purchase a quantity of these wood-and-wire traps, and offer them to bee-keepers at a low price; and I am glad to tell you that we have just got in a lot of them that we offer at the following ridiculously low prices: 2, 5 cts.; by mail, 7 cts.; dozen, 25 cts.; by mail, 41 cts.; one gross, if you want so many, \$2.00.

I hardly need tell you that mice in the apiary, especially in the honey-house, frequently cost bee-keepers many dollars. But now with these little traps carefully attended to you can start a crusade that will rid the country of rats and mice.

We can furnish a larger size of trap, suitable for rats and other animals of that size, for a like low price.

TRANSFERRING FROM BOX HIVES—THE BEST TIME TO DO IT.

Mr. W. K. Morrison, in his notice of the Biggle bee-book in our last issue, page 23 of the advertising section, objects to transferring *in the spring*. As the write-up was unsigned it might imply that the authors of our A B C wrote it and were not consistent in their teachings. We do not agree with the criticism, that bees should be transferred after the colony has swarmed, and the matter would have been corrected before

it was put in print had it not been overlooked. It is true that, by transferring after the box hive has swarmed, you can get rid of the brood; but it is not true, as he states, "there is neither brood nor honey in the hive."

If I am correct, James Heddon suggested this method of transferring, and it has one very marked advantage: You can put your bees on combs of foundation or on good straight combs that have been drawn out from foundation, thus avoiding not only drone comb but crooked and ungainly combs that are usually found in box hives. In the ordinary way of transferring, as laid down in our bee-books and our transferring leaflets, if one wishes to save the brood he must cut out and fit into frames as many or as much of the comb as contained brood. By the methods referred to, old combs contain no brood; but they do contain such an amount of honey, and make such a dauby, sticky mess of it, when the combs are cut out that I should say the Biggle book is right in recommending *spring* transferring, when there is but little or no honey in the way, and a good many times but little brood, especially if you do it quite early in the spring.—A. I. R.]

THE VINEYARDS OF CALIFORNIA AND THE PRESENT PROHIBITION WAVE.

Already there is a great alarm among the vineyardists of California, where grapes are grown for wine, something like the consternation among the manufacturers of "whisky-bottles." With the following letter was sent a newspaper clipping headed, "Teaching America the Use of Wine." The article recommended making wine so cheap that it could be used in place of tea and coffee, as they do in Spain and Cuba.

I am a subscriber to GLEANINGS, and always read your Home writings, and especially like the way you show up the evils of tobacco-using and intoxicating drinks, including fermented wine, which I know to be as bad as the worst of intoxicating drinks. I am now living in a prohibition neighborhood (which I am thankful for); but there are wine-vineyards all around here, and a winery located on the road between here and town, at which they can sell wine only in quantities of more than single drinks, but there are so many drunken men on the road near the winery that the children are afraid to pass on their way to and from school. I was raised in California, and know some of the best parts of the State are demoralized by wine and the wine-grape industry.

Now, you will notice in this article inclosed that our State University is working for this wine business, and they have no right to head their article with "the grape-growers of California." I have been a raisin-grape grower, and have known many raisin-grape and table-grape growers who would not even sell their grapes to winery men. Wine as mentioned in the Bible was not fermented unless it said so, as fermented wine was the exception and not the rule, as it is to-day in Palestine. Grape juice is preserved there in many ways without allowing it to ferment and turn into alcohol.

Now, I do hope you can use this article in Our Homes to counteract their intended scheme of educating the American people to drink wine by giving it away, etc., in the eastern cities. There is not, and never can be, a separation of fermented wine from any other intoxicating drink. J. I. MORGAN.

Escondido, Cal.

We are very sorry to bring consternation and trouble among those who grow grapes for wine. But I think there is a good and wholesome way out of this trouble—first, put on the market plenty of unfermented wine. This can be sold, if thought best, at the price of tea and coffee. If the grapes grown can not be used up in this way, or by selling the fruit, or making it into raisins, then dig up the vines and use the ground for some other purpose. This is being quite largely done, I am told, already, especially where there seems to be an oversupply of any particular crop or fruit.

The papers inform us that this wine question is a very serious one to the vineyardists of North Carolina since that State adopted prohibition.

THE GIANT AWAKENED.*

Dr. W. S. Ament, the great Chinese missionary, formerly pastor of the Congregational Church in our town, says in his book, "The Giant Awakened."

It would require a keen observer to keep pace with the present intellectual awakening of the Chinese people. Does history present any thing like it? Only fifty years ago Japan began her rapidly expanding life; but Japan is less than one-tenth the area of China, and has only about one-tenth the population. Would a hundred years be granted China to accomplish the same results? But during the last four years China's advance entirely eclipses that of any other country in the world in the same length of time.

*See p. 351, June 1.

KIND WORDS.

He that goeth forth and weepeth, bearing precious seed, shall doubtless come again with rejoicing, bringing his sheaves with him.—PSALM 126:6.

The two following letters are not about "high-pressure gadding," nor, particularly, high-pressure bee-keeping; but they are high-pressure *kind words*—kind words "with a vengeance" too. Now, when you read them please do not think I have given place to them because they praise my humble efforts. They exalt not my poor self, but the Lord Jesus Christ whom I am trying to serve.

Mr. A. L. Root.—

When I commenced receiving GLEANINGS I did not find time to do more than look at the pictures and dip in a little here and there; but I carefully filed the numbers, hoping for the happy hours of leisure when I might drink profoundly of the lore of bee-keeping.

Last winter I caught the first of your Florida letters about chicken-raising, which hit me just right. But the allusions to previous letters compelled me to consult other issues in the file, which all went to the spot; so I was forced obliged to go back to my first number and enjoy thenceforward the greatest treat of my life in your editorial department under the heading *Our Homes*, and "hearken to the last line of your monthly contributions to my journal." I had no idea that there was such a gold mine of truth delightfully told so scandalously neglected, right under my hand and eye. Now when GLEANINGS comes it matters not what important matters are pressing, they can all wait till I have devoured your most earnest and persuasively influential editorials. Possibly there are moments when your descendants momentarily think of the "old man" as such a bother; but, a'լ the same, I doubt not they are all proud of you as one of the pure sources in the high Alps whence has descended to them the high intellectual and moral character which is making them also molding forces in American society. For many years yours has been a name of household familiarity; but only latel-y have I seemed to feel acquainted with you, or to realize that you are "all right" and "all right."

I do not know very much about bee-keeping yet; but I don't need so much time and study to know that the editor of "*Our Homes*" is "all wool and two yards wide" and thousands of your readers have known it much longer than I have. May you live to conduct *Our Homes* into your second century.

Venezuela, Mexico, April 30. G. W. DITHRIDGE.

Mr. A. L. Root.—

In GLEANINGS for Jan. 15, 1909, in *Our Homes* I noticed an article by you, recalling an incident that happened in a barbershop in Atlanta on your way to your home in Florida, and the thought of those men making sport of you for lecturing them on the subject of tobacco. You will remember that I have been a user of tobacco for seventeen years, smoking cigars, cigarettes, and pipe. In 1890 I was in Southwest Texas, and stopped off at a little station on the Aransas Pass Railroad. I noticed an old man working in an apiary, and began talking with him—asking questions about the business, the cost to get started, etc. He told me first to get the ABC of Bee Culture, which would explain all; but I was first to throw away the cigarette, as it irritated the bees. From 1890 to 1909 is a long time. Well, three years ago I decided to put the cost of one year's tobacco into bees and bee-supplies; so I bought of the Texas Seed and Flor'd Co. five Danzenbaker hives and three hives from the White Mfg. Co. at Blossom, Texas. This, with four stands of hybrid bees made a total of 86. I had estimated the tobacco bill to be about the amount for a year. The first (and up to the middle) of last September I did not get any honey to speak of, though I did get plenty of stings while working with them. To make matters worse, I lost five colonies last summer by a disease resembling black brood, though I finally got rid of it by destroying the sections of wax and brood-chambers. Three hives not affected I let alone. From two of these colo-

nies I secured 64 lbs. of sealed honey in Danzenbaker one-pound sections; from the other hive, 12 lbs. This was after August, last year, when I thought I should lose them all. Late Wednesday I looked out of my window at the hive and took 14 lbs. of white clover honey that was sealed over nicely. I sold 7 lbs. or it at 25 cents, and had calls for much more. This was sold in the foundry where I work. The exquisite pleasure of producing comb honey better than any one else in your neighborhood is satisfaction enough. Five pounds of this honey my wife keeps on the sideboard, the admirat'on of all visitors. Every one tasting it says the bouquet left in the mouth is excellent, and never before have tasted honey its equal. As for looks, it is a creamy white.

In conclusion I wish to say I have not used tobacco in any form for over three years. When it seemed as if I must smoke I would take my seat by the hives and watch the bees spending their lives in labor to make our lives sweeter. I am glad you show us your character and home life in your writings. You have been the authors of my quitting tobacco as well as writing, helping and blessing others. Your entire family feel in reading *Our Homes*, that you have been a blessing to all through your writings and teachings. If you ever come through Marshall we should feel honored if you would visit us. It would indeed be a pleasure to clasp your hand; and in the years to come we shall point with pride to your teachings for my own life; ones as an example well worthy their emulation. May the richest blessings of heaven rest on you; and in your declining years you will have the proud satisfaction of being a blessing to all mankind. My entire family join in warmest expressions of love to you and yours.

Marshall, Texas, May 15.

* C. NICHOLSON.

Last winter we had in Florida two weeks of revival meetings, and a young man from Wooster, Ohio, assisted the evangelist by singing. He sang one hymn that keeps ringing in my ears every little while. It is found in "Revival Hymns," published by the Bible Institute Colportage Association, Chicago. The chorus is as follows:

I am redeemed, but not with silver.
I am bought, but not with gold;
Bought with a price—the blood of Jesus—
Precious price of love untold.

Now, the thought in that hymn is that it is not "silver" nor even gold but the blood of Christ that bought this redemption, and this has been the inspiring thought, and the two letters above add emphasis to that thought. May God be praised for what my simple stories have done to bring others like myself out of the darkness and into the light. If there is anybody else who has been delivered from the thralldom of tobacco and cigarettes through the Home papers we should be glad to hear from him.

BEESWAX WANTED

WE are always in the market for beeswax, and will pay the best market price. We used last year in the manufacture of **Comb Foundation** over

EIGHTY TONS

and are likely to need fully as much for this year's trade. Send your wax direct to us, being sure to pack it carefully for safe shipment, and mark it so we can easily tell who sends it. Write to us, at the same time sending a shipping receipt, and stating weight of shipment, both gross and net.

We are paying at this date for pure average beeswax delivered here, 28 cents per pound cash, or 30 cents in trade. On choice yellow wax we pay a premium of one to two cents a pound.

THE A. I. ROOT COMPANY, MEDINA, OHIO

DADANT'S FOUNDATION**DADANT'S FOUNDATION****DADANT'S FOUNDATION****It Excels****WHAT'S IN A NAME?**

That depends on whose name it is. It depends upon what the name represents. It depends upon the quality of the goods the name represents. It is NOT the name that makes DADANT'S FOUNDATION so well known and well liked, but it is the **Quality of the Goods**. That's what backs up the name, and the QUALITY is backed by thirty years of successful experience in foundation-making.

EVERY INCH of DADANT'S FOUNDATION is equal to the best inch we can make. Do not fail to insist on Dadant's make when you order your foundation. Accept no substitute, even though the dealer claims his foundation is made by the same process.

It is the PURIFYING PROCESS that counts. Our method of purifying has been unequaled for years. This method leaves every essential in the pure beeswax, and our foundation does not have the odor of wax cleansed with acids.

That is why several large honey-producers who have tested our foundation side by side with other makes, have found ours to be the best, and the best liked by the bees.

Beeswax

Do not sell your beeswax until you get our quotations. We have received, up to April 1, over 80,000 pounds of beeswax for our 1909 trade. We will need over 80,000 pounds more before January 1, 1910. Drop us a card and get our prices.

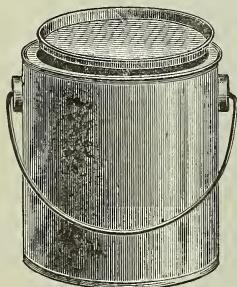
Agents for DADANT'S FOUNDATION in every part of the United States.

Dadant & Sons, Hamilton, Illinois

DADANT'S FOUNDATION**SAVE YOUR HONEY**

Use

American Honey
Cans and Pails



The distinct advantages of cans for packing extracted honey, over the old-style packages, is so pronounced that not one of the leading bee-keepers to-day would think of going back to the old way.

The risk of leakage is eliminated; there is no chance of breakage, to say nothing of the absolute superiority of the cans in other directions.

We have designed three styles which are used exclusively for honey-containers. The Friction-top Cans and Pails are provided with large openings for filling and emptying, and are readily opened and closed. The Square Can with Screw Top packs well and ships safely. The round Can, encased in wood, containing 60 pounds, and provided with wire-bail handle, was especially designed for the packing of honey. Write for special prices to bee-keepers.

American Can Company

New York

Chicago

San Francisco

OUR QUEENS

Were Never Better than They are Now

We Have Queens of every grade bred in our yards here, that we can send out by return mail.

We Guarantee Our queens to be equal to any stock bred, and better than the average.

You Can't Expect To get large crops of honey if you have inferior stock in your yards.

It Doesn't Pay To leave old and common queens in the hives.

Requeen Now We can furnish the best stock at this season of the year at such reasonable prices that no one need hesitate to get the queens he needs.

The First Cost Is really a secondary consideration now.

Quality Is the first consideration, and we know you can not be better pleased than to send your order to us. We guarantee safe arrival anywhere in the United States.

Our Prices	Untested	\$1.00	Select tested	\$3.00
	Select untested	1.25	Breeders	3.50
	Tested	2.00	Select breeders	7.50
	Extra select breeders			10.00

Quantity Orders We take special care of orders for queens in lots of fifty or more. Give plain mailing instructions, telling whether you want them all one day or at intervals and we will get them to you just when you want them. We make special prices in quantity lots.

Write Us Today And get some of the best queens obtainable at reasonable rates, and be sure of getting a large honey crop. Our bees will gather honey if there is any to be had.

The A. I. Root Co., Medina, O.

FALCON QUEENS

WE HAVE in charge of our Queen Department Mr. Leslie Martin, who has had wide experience in the queen business, having been the queen-breeder in the apiary of the U. S. Department of Agriculture, Washington, D. C., for several seasons, as well as privately conducting the Birdcroft Apiaries in Tennessee since that time. His queens have become famous, and it is with pleasure we offer his services to our customers in the management of this department.

Our "Falcon" Queens are unexcelled in honey-gathering qualities; they winter well, and are gentle. They cap their sections snow-white, and breed early in spring.

Our Mr. Martin is particularly an authority on Caucasians, as he bred much of the stock sent out by the U. S. Dept. of Agriculture which other breeders are using.

Get our Improved "Falcon" Queens, and increase your honey yields.

Price List of "Falcon" Queens

Three-band and Golden Italians, Caucasians, and Carniolans

	BEFORE JULY 1	AFTER JULY 1
Untested.....	One, \$1.00; six, \$5.50; 12, \$10.00	One, \$.75; six, \$4.25; 12, \$ 8.00
Select Untested	" 1.25 " 6.75 " 12.75 " 100 " 5.50 " 10.00	
Tested, \$1.50 each		Select Tested, \$2.00 each

All queens are reared in strong vigorous colonies, and mated from populous nuclei. Instructions for introducing are to be found on reverse side of the cage-cover.

Safe arrival and satisfaction guaranteed.

Sections and Foundation

Send us your RUSH orders for Sections and Foundation—"FALCON" BRAND—the finest made.

Have you seen the Dewey Foundation-fastener? It is the most rapid machine on the market. Send for circular, or, better still, \$1.50 and receive one by mail, postpaid.

W. T. Falconer Manufacturing Co.
Jamestown, New York, U. S. A.

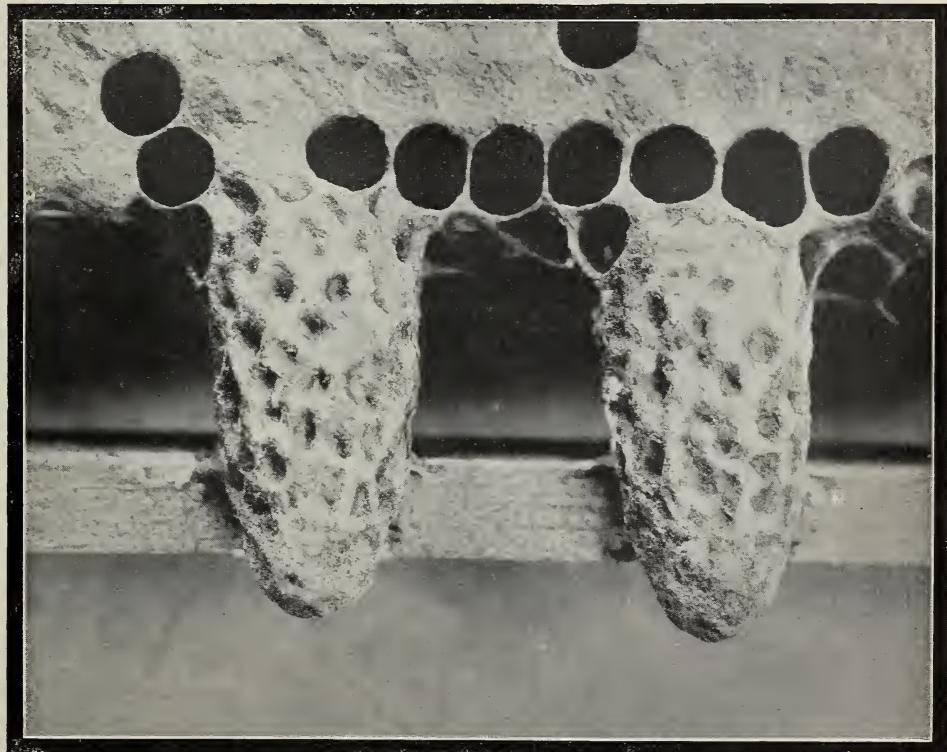
500 5 504

Gleanings in Bee Culture

VOL. XXXVII

AUGUST 1, 1909

NO. 15



NATURAL QUEEN-CELLS, GREATLY ENLARGED—SEE EDITORIALS.



THE A. I. ROOT COMPANY, MEDINA, OHIO, U. S. A.

Summer Specials

Great - Three - Months' - Trial - Offers

Eight Standard Magazines, Each for Three Issues, beginning with Current Numbers.

Offer...
... No. 1

Success Magazine.....	10c a copy.....	3 months.....	\$.30
Pictorial Review.....	15c a copy.....	3 months.....	.45
World To-day.....	15c a copy.....	3 months.....	.45
Youth's Companion.....	5c a copy.....	3 weeks15
Pacific Monthly.....	15c a copy.....	3 months.....	.45
Modern Priscilla.....	10c a copy.....	3 months.....	.30
Van Norden Magazine	15c a copy.....	3 months.....	.45
Little Folks.....	10c a copy.....	3 months.....	.30
Total single-copy price.....			\$2.85

Offer...
... No. 2

Success Magazine.....	10c a copy.....	3 months.....	\$.30
Pictorial Review.....	15c a copy.....	3 months.....	.45
Van Norden Magazine	15c a copy.....	3 months.....	.45
Youth's Companion.....	5c a copy.....	3 weeks15
Metropolitan Magazine	15c a copy.....	3 months.....	\$.45
Modern Priscilla.....	10c a copy.....	3 months.....	.30
Pacific Monthly.....	15c a copy.....	3 months.....	.45
Travel Magazine.....	15c a copy.....	3 months.....	.45
Total single-copy price.....			\$3.00

Offer...
... No. 3

Pictorial Review.....	15c a copy.....	3 months.....	\$.45
Modern Priscilla.....	10c a copy.....	3 months.....	.30
Youth's Companion.....	5c a copy.....	3 weeks15
Van Norden Magazine	15c a copy.....	3 months.....	.45
Mother's Magazine.....	5c a copy.....	3 months.....	.15
Little Folks.....	10c a copy.....	3 months.....	.30
Pacific Monthly.....	15c a copy.....	3 months.....	.45
Health Culture	10c a copy.....	3 months.....	.30
Total single-copy price.....			\$2.55

The Farm Journal (Philadelphia) for three months may be substituted for any magazine in either offer.

Magazines must all go to ONE address. No Canadian or foreign subscriptions accepted. Offers are for a very limited time only.

HOW TO GET THEM

You Must be a Subscriber to Gleanings in Bee Culture

If you are NOT a subscriber, the "Eight Standard Magazines" for three months and "Gleanings in Bee Culture" for one year will cost you—

For Offer No. 1.....	\$1.60
For Offer No. 2.....	1.60
For Offer No. 3.....	1.30

If you ARE a subscriber, but want to take advantage of these unusual offers, the "Eight Standard Magazines" for three months will cost you—

For Offer No. 1.....	\$1.00
For Offer No. 2.....	1.00
For Offer No. 3.....	.50

Place Order To-day. Tell Your Friends.
Remit in Any Way Convenient to You.

Gleanings in Bee Culture, Medina, O.